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COLLEGES OF PHARMACY

SUMMER





# AMERICAN JOURNAL of PHARMACEUTICAL EDUCATION

## AMERICAN ASSOCIATION OF COLLEGES OF PHARMACY 1961-1962

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\*Specification of a year after the name of a member of the Executive Committee indicates the year in which the term of office terminates at the time of the annual meeting.

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**College of Pharmacy, The Ohio State University**



*Lloyd M. Parks*

**AACP, 1961-1962  
EXECUTIVE COMMITTEE**



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**1963**



**Jack E. Orr**  
**University of Washington**  
**1963**



# The President

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C. BOYD GRANBERG

## PRESIDENT LLOYD M. PARKS:

### A BIOGRAPHICAL SKETCH

The notable history of selecting able men for office in the American Association of Colleges of Pharmacy was given worthy consideration in Chicago, Illinois, in April of 1961, with the election of Lloyd M. Parks as president. In Parks the Association chose a man with the necessary qualities of mind and character combined with an easygoing geniality and intellectual toughness.

Dr. C. O. Lee, one of Parks' first teachers in pharmacy and the man credited by Parks with stimulating his interest in graduate study and teaching, replied this way to a request of the editor for information about Parks:

"I feel that these biographical accounts should, where possible, give us some idea of the family background, whether from farm, factory, business, poverty or riches, etc."

Dr. Lee then proceeded to give this account of Parks' early life.

"Lloyd M. Parks was born near Scottsburg, Indiana, the youngest of nine children. His father was, at that time, a farmer in Scott County in Southern Indiana. While Lloyd was still a baby the family moved to White County

in northwest Indiana. Two of Lloyd's brothers and three sisters are still living there.

"In 1929 Lloyd finished high school in Chalmers, Indiana. In the fall of that year he entered the Purdue University School of Pharmacy as a freshman. In June, 1933, he graduated with the degree of B.S. in Pharmacy. After spending a year in a drug store he returned to Purdue in September, 1934, to pursue postgraduate study. In June, 1936, he was granted the M.S. degree by Purdue.

"During these two postgraduate years he was my teaching assistant in pharmacy, and, I am happy to say, one of the best ones I ever had. He had my complete confidence and I always felt that in my absence he would see to it that the work in the laboratory and elsewhere in my department would be done properly."

Dr. Lee's opinion of Parks has not changed over the years as witnessed by these words.

"Perhaps my personal feelings about the man are of little use . . . but I am happy to see him being recognized in the upper brackets of pharmaceutical circles. I hope you do not mind my

saying that I put Parks at the top of the list of our American pharmacy deans."

This opinion of the man Parks is reflected in the statements of other acquaintances and colleagues of our Association president. From the Rt. Rev. Msgr. F. L. McDonnell, pastor of Our Lady Queen of Peace Parish, Madison, Wisconsin:

"They (the Parks' family) were extremely generous in their co-operation in the founding and developing of this Parish. Dr. Parks was an outstanding member of the Men's Holy Name Society.

"... I have great esteem for our mutual friend."

In these few words Monsignor McDonnell has expressed the qualities of Parks' character—generosity, co-operation, a determination to develop (i.e., to advance, to progress, to promote the growth of)—that have become the hallmark of his life.

Novice G. Fawcett, president, The Ohio State University comments:

"In the six years since he joined our faculty, Dean Parks has earned the sincere respect of all of us for the effective and unassuming manner with which he accomplishes his tasks.

"To his relationships with alumni of his college and other representatives of his profession, with students and with future students, he brings both understanding and energy.

"Those of us who have had the pleasure of working with Lloyd Parks can testify further to his personal qualities of dignity and warm friendliness."

Thus is brought out another side of the character of President Parks—warm, friendly, understanding, compassionate, unassuming.

From the words of Vice President Frederic Heimberger of The Ohio State University, we are made aware of the diversity of interests and activities of Lloyd Parks in his position as dean of the college of pharmacy.

"In the five years he has been dean of our college, Lloyd has won a very high place on our campus. His influence has extended to the entire university, rather than being limited to pharmacy alone. For example, he is an elected member of our Athletic Council and is now serving as chairman of that body. In pharmacy he has done much to stimulate research, to establish better relations with the profession in Ohio, and to recruit students of high ability for careers in his professional field."

Dr. Fawcett's remark referring to establishing "better relations with the profession in Ohio," was expressed another way by Dr. Lee, "... (he) is winning his way to the hearts of Ohio pharmacists." To substantiate these statements we have the words of James D. Cope, executive secretary of the Ohio State Pharmaceutical Association:

"Dr. Lloyd Parks, since he came to Ohio . . . , has been extremely active in all facets of the profession in our state.

"He is organization minded and has done much to improve and strengthen Ohio pharmacy through his many activities."

Mr. Merrill J. Insley, Bellafontaine, Ohio, member of the Ohio State Board of Pharmacy wrote:

"Dr. Lloyd M. Parks' entrance into the field of pharmacy in Ohio filled a very pressing need for an outstanding leader, as well as an educator.

"Dr. Parks has and is giving much of his time to promoting pharmacy to the public, to the students of our high schools, and to the pharmacists. He is never yielding in his effort to upgrade the profession of pharmacy to its rightful standing.

"His council with the Ohio Board of Pharmacy has been most helpful both in examination and legislature fields.

"We as pharmacists are most fortunate in having Dr. Parks championing the cause of pharmacy."

These accolades from friends and colleagues mark the recognition and ceremony of Lloyd Parks assuming the presidency of this Association. What about his thoughts and opinions concerning the profession?

Parks received his Ph.D. from the University of Wisconsin where he was research assistant to the late Dean Edward Kremers. To quote again from Dr. Lee: "Purdue could have given Parks a program for the doctorate degree but I felt that he deserved the benefit of another institution and urged Wisconsin to take him which it did."

This philosophy of obtaining the graduate degrees from an institution other than the one from which the undergraduate degree has been obtained has remained with Dean Parks. In his presidential address delivered at Chicago this past April, Dean Parks commented:

"... (An) item of concern ... is the excuse it gives to continue the undesirable practice of encouraging students to continue their graduate study in the same college where they obtained their undergraduate degrees. This Association adopted a resolution in 1949 to the effect that each member college inform its qualified graduating students of the opportunities for graduate study and of the special advantages to be obtained in pursuing graduate work in an institution other than the one in which the undergraduate degree was obtained.

"... it would appear that there is considerable inconsistency between what we say and what we do in the matter of advising our students regarding graduate study."

In April of this year Dean Parks was selected to present the annual Edward Kremers Memorial Lecture at the University of Wisconsin. From this address it is possible to garner an idea of the philosophical observations of President Parks on the profession of pharmacy.

"In my judgment pharmacy is in no more precarious situation and its future holds no more foreboding than many other fields of activity. Its current prob-

lems are all a part of the ferment which pharmacy is undergoing in its adjustment to the demands and practices brought on by the modern atomic age and by the changing social, economic and political environment in which we live."

"Some years ago I stated that there was an impending danger of the community pharmacist being reduced completely to the status of a purveyor of pre-fabricated, pre-sold, and pre-priced medication to the public. Economic, political and social forces have contributed to that evolution. The pharmacist, unfortunately, also has contributed to it by his preoccupation with the economics of his position in distribution, his failure to emphasize sufficiently his professional role, and his willingness to embrace the commodity concept as opposed to the service concept in his professional practice."

"We should not overlook pharmaceutical education in our self-analysis. The improved and extended educational standards that have been developing during the current century, with emphasis on the sciences and de-emphasis of vocational aspects, have been responsible for raising the practice of pharmacy from a condition of functional empiricism and placing it on a foundation of scientific professionalism."

"We are frequently criticized for the lack of 'practical' courses in the curriculum. What could be more 'practical' for the pharmacist in his present predicament than a better ability to use his native language, orally and in writing, to enable him to communicate more effectively with other members of the health team and with his public in establishing and strengthening his rightful professional role; a knowledge of psychology to better understand and, hopefully, even to neutralize the effects of some of the flamboyant drug promotion philosophies and practices that emanate from Madison Avenue; or a knowledge of economics, sociology and political science to better understand his

position in the changing environment of social, economic, and political pressures to which the health professions are being subjected? It may well be that the future of pharmacy will depend as much upon these things as upon the professional competence of the pharmacist."

"Wouldn't the professional attitude be more prominent if we had more pharmacists in key positions of influence and responsibility at all levels in the development, promotion and distribution of drugs? Whether it be at the manufacturer's level, the wholesaler's level, in personal detailing of drugs to physicians, in public relations work for the industry and profession, in its legal, economic and social aspects, or as executives of local, state and national organizations responsible for shaping group philosophies, policies and practices, I believe we need more pharmacists in control of pharmacy and its destiny."

The enlightened outlook toward pharmacy expressed by the above quotations and the personal traits of character mentioned before are the basic factors responsible for the impressive record of Dr. Parks.

*Scholar.* Winner in 1953 of the Ebert Prize, given annually for the most outstanding achievement in pharmacy research in America. Dr. Parks' research work has been in the fields of pharmaceutical chemistry and phytochemistry.

*Author.* He is co-author of the textbook *Inorganic Chemistry in Pharmacy* published in 1949 and the author of more than thirty technical articles in various scientific journals.

*Service.* In 1950 he was awarded the honorary Mortar and Pestle Award of the Wisconsin Pharmaceutical Association for his service to pharmacy in that state. He was the recipient in 1960 of the J. H. Beal Award of the Ohio State Pharmaceutical Association for service to pharmacy in Ohio.

*Organizations.* He has served as a member or chairman of many AACP committees. He is a member of the United States Pharmacopoeia Revision Committee. He has served the A.Ph.A. as a committee member and as chairman of the Scientific Section. He served as secretary-treasurer and vice president of the Rho Chi Society and is currently the president of that honorary group. He also has membership in Sigma Xi, Phi Lambda Upsilon, and Kappa Psi.

*Military.* He served in the Air Force from 1941 to 1945 as a chemical officer and presently holds a commission as Colonel in the Air Force Reserve.

This impressive record would have been much more difficult to compile without the assistance of two very important people in the life of Dean Parks, Irene Marie Comiskey, who became Mrs. Lloyd M. Parks in 1940, and the daughter of this union, Regina Marie, born April 17, 1943.

This is Lloyd M. Parks, the sixty-first man to serve as president of the American Association of Colleges of Pharmacy. A far-sighted and forthright Hoosier-to-Badger-to-Buckeye who is constrained to speak his mind and whose utterances are pointed, pertinent, and often prophetic to the point of being psychic. Lloyd M. Parks, candid, cordial, competent.



# Addresses

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HENRY M. BURLAGE

## ADDRESS OF THE PRESIDENT

I gave considerable thought to the pattern set by your president last year—that of having a slogan or theme threading throughout his address—and decided to follow it. In reviewing the changes, problems and advances that will be facing our profession in the remainder of this decade, and in order to meet these head on with due reward for pharmacy, I like and have chosen the motto of a founder of one of our highly respected ethical pharmaceutical manufacturers, a motto which is still used by that concern today: "Keep the Quality Up!" In applying it to our Association, its members and its facilities, I should like to paraphrase this slogan by the words, "Bring the Quality Up."

For all too long pharmacy has been hindered educationally by two qualities: By *smallness*, due to lack of numbers; and by *mediocrity*, due to its slowness (dating over one half of a century) in developing a sound educational background. These hindrances are in evidence when it comes to budgets for pharmaceutical education; to considerations of the place of pharmaceutical education in the areas of science, public health, and socio-economic affairs;

and when pharmaceutical education seeks financial support from outside sources.

### Central Office

At our annual meeting of last year you approved an increase of annual dues to provide for a central office and a full-time executive secretary-treasurer. This person, together with the Executive Committee, is to take charge of the office and of the affairs of the Association during the interim of our annual meetings.

The Executive Committee has been concerned with the budget relating to these changes, and you will learn from the reports of the chairman of the Executive Committee and our secretary-treasurer concerning these. A special committee appointed by the Executive Committee relating to the appointment of the executive secretary-treasurer will make a report to the Executive Committee at this meeting. Also, changes in the bylaws to effect these changes will be acted upon in the executive session.

It is a pleasure to report to you that by rearrangement of our budget and with support from the American Foundation for Pharmaceutical Education,

our central office and the permanent office of secretary-treasurer are assured. It is anticipated that once these organizational changes are made the policies of the Association and the effect of these upon pharmacy can be put on a more stable basis and a subsequent "bringing-the-quality-up" type of accomplishments should be in order. We should rejoice in this. Are we going to see to its effectiveness?

Since the need for the central office is becoming more urgent each year, and since it must carry out its function in national educational affairs and legislation affecting these, it is hoped that this office will be established in the city of Washington, D. C. There are several reasons favoring its establishment in Washington: (1) Washington now ranks second only to New York City in the total number of trade and professional associations which have their headquarters there. (2) The federal government has an ever-increasing role in the areas of education, research, and public welfare—whether we like it or not. (3) Because of this role, the federal government leans on the associations for statistical information, which must be available at a moment's notice. (4) On-the-spot action by our Association on affairs originating in Congress which are of great significance to pharmaceutical education and to pharmacy is imperative if we are to receive our just dues and consideration.

#### **Annual Meetings and Teachers' Seminars**

On the basis of a recommendation by your vice president and of the discussion which ensued with respect to a format of our annual meetings and the teachers' seminars, it was decided to discuss the pro and con of these meetings in a panel which is scheduled for this convention. Our thanks should go to Dean Sprowls and his panelists for accepting this assignment.

It is, indeed, a handicap to have a constantly changing schedule of annual meetings, such as happened this year.

Also, your Executive Committee, by the appointment of a sub-committee of its members under the chairmanship of the vice president, is making an evaluation of the teachers' seminars, and this committee's report will be made to the Executive Committee sometime during this annual meeting.

It was our understanding that, when a teachers' seminar was not scheduled with the annual meeting, the teachers' section in that discipline would hold only a business meeting at the annual meeting of the Association. I believe that this scheme is being followed this year.

As you all know, the Teachers' Seminar on Pharmacy is scheduled this year and will be held at the University of Wisconsin during July 9 through 15. A Seminar on the History of Pharmacy is being held as a separate effort July 8 through 11. You will, no doubt, hear more of these at this meeting.

#### **Trimester Programs**

At this meeting we will be privileged to hear a discussion on the pro and con of the so-called trimester or four-quarter program of instruction for our colleges and universities.

Your Executive Committee, by your instruction at our last annual meeting, has drawn up a set of guiding principles which has been circulated to each member college and school. Because of pressure from within and without we need to know the impact of such a step if we are "to bring the quality up," for there is much evidence that such a program, unless properly operated with sufficient faculty and facilities, may tend to debilitate both the students and faculty.

Those of us who had the unhappy experience of serving under the so-called V-12 programs were, in most instances, not too happy with the requirements and accomplishments of that type of program.

There is no question but that there must be greater utilization of costly facilities, but there is also evidence,

on the other hand, of decay of physical plant which can prove costly as well as demoralizing, if time is not permitted for the proper care and repair of such plants.

### **Faculty Membership in Our Association**

Our organization has oftentimes during the years been called a "Deans Organization." This is no doubt true in part since its membership at present is institutional and as such the administrator has been, in most cases, the voting delegate representing his institution. This tag, "Deans' Organization," is to some extent unfair when one considers what the Association has done for the faculty members. In order to provide such important activities as the teachers' seminars and sections, the *Journal*, and other functions in order "to bring the quality up," it has had to seek outside support, primarily through the generosity of the American Foundation for Pharmaceutical Education. Also, members of our faculties have been members of the Executive Committee, and I know of one instance when the president of the Association was a member of a faculty and not an administrator.

It would appear that in carrying forward our movement of establishing a central office and a full-time secretary-treasurer, we should endeavor to "pay our way" rather than depend on others to do this for us.

The activities of the Association have expanded and will continue to do so far beyond the original considerations of administrative problems to the many and varied problems of pharmaceutical education of great concern to each and every member of the pharmaceutical faculties of our member colleges. Most of us are aware of the factors which have caused the accelerated expansion of our activities since 1940. However, because of these factors there is urgent need for our organization to represent not only the colleges and schools as institutions but also the faculty members. This is based upon

the logic expressed by the great Theodore Roosevelt, who said, "Every man owes a part of his time to the building up of the industry or profession of which he is a part . . ."

Therefore, I recommend that a special committee be appointed by the incoming president to study the matter of individual membership in our Association and to present a plan for such membership to be acted upon by the Association at its 1962 meeting. The plan should be such as to include the membership, an annual subscription to the *Journal*, membership in a teachers' section of the member's choice, with the privilege of joining the others at a nominal additional fee. Your president feels that such a membership, if properly established, can do more "to bring the quality up" in the unification of our educational objectives than any other single factor by giving our faculty members a sense of belonging, if they do not have it now. Too many of our faculty members lack a deep-seated motivation in contributing their part to our teaching profession.

This type of membership I have in mind is not unique since fairly recently it has been set up by the Association of American Medical Colleges.

### **A Self-supporting Association**

With the establishment of a central office and the post of executive secretary-treasurer, it is highly desirable and essential that in order to be assured of the most good from this new accomplishment the Association will have sources of revenue which will permit it "to stand on its own feet." This revenue should be sufficiently great that it can also carry on additional functions as the course of events necessitates. The additional sources of revenue, other than institutional dues, might be available as follows:

1. If a satisfactory individual faculty membership is devised and proves successful and a subscription to the *Journal* is included, then the subscription list might be sufficiently large to solicit professional adver-

tising as a source of additional income. It is recommended that this matter be given serious consideration.

2. It is recommended that the Association, in conjunction with the National Association of Boards of Pharmacy, devise a procedure whereby the Association will serve—at a fee to be paid by the reciprocant—as a clearing house for the processing of the necessary affidavits certifying to the attendance and graduation of reciprocity applicants from a member college and/or school. The present procedures are time-consuming and inconvenient insofar as the institutions are concerned, and I am sure that they will cooperate in such an effort to bring extra funds into the treasury of the Association.
3. In connection with the recommendation to establish a faculty membership in the Association, I recommend that the committee appointed to make recommendation for faculty membership also be directed to study the feasibility of a sustaining membership (without vote) which would be available to persons who are deeply interested in pharmaceutical education and are willing to make contributions on an annual basis for such membership, for which due recognition would be given.

#### **Conference of Administrators**

As stated before, this organization has often been called a "Deans' Organization," and this may have been true some years ago. Such a tag cannot be placed on it now, especially since the promotion of various activities for the benefit of the teacher. This has been discussed previously.

For several years, because of perplexing problems that have arisen, I have felt that of equal importance to the teachers' sections would be the establishment of an Administrators' Conference or Section, at which time these persons could meet informally to discuss many of the perplexing problems confronting

them as administrators in the days ahead, some of which should be solved with a united front with the aim of "bringing the quality up." Many large and small matters need to be discussed with the aim of presenting them to the floor of the convention. Strategy with respect to legislative matters might be discussed. Such a conference could be of great help to the Executive Committee and especially to the executive secretary-treasurer. Such a conference would not need to be longer than a one-half day session and could be conducted by the vice president as an obligation of that office; it might be held at the same time that the teachers' sections are scheduled. I recommend that the Executive Committee consider the advisability of such a conference.

#### **Lack of Interest and Loyalty of the Pharmacy Graduate**

This is a disturbing factor which no doubt confronts all professional schools, but to a greater extent pharmacy. Recent figures which have come to my attention indicate that the pharmacy graduate supports very poorly his Alma Mater as compared to the graduate of other professional schools. He is also non-association-minded if a recent report of the secretary of the American Pharmaceutical Association dealing with the recent graduates is any indication; this is also evident when membership in the same organization is compared with that in other professional organizations. This was discussed to a considerable extent by Secretary Apple at our last annual meeting.

Since such interest is so urgently needed to "bring the quality up" at this time, it seems important to learn the causes of this lack of interest and loyalty. Is it because the practice of pharmacy is a dual profession where the commercial aspects cause a loss of the true perspective of the values that pharmacy needs if it is to keep pace with our fellow health professions? Is it because our faculties are failing to inculcate in the minds of the students the importance and value of these qual-



ities? Is it because the graduate in pharmacy is a victim of the "smallness" of his profession and he feels it does not need his interest or his help to progress? Is it because of our failure "to bring the quality up"? Is it because we as faculty members lack the loyalty which should be transmitted from the teacher to the student? Why is it that the American Dental Association has 95 per cent membership without compulsion? I recommend that a special committee be appointed to study this problem and possible solution(s) of the same.

#### **Fundamental Research and the Pharmaceutical Industry**

There is also much concern about the support of the pharmaceutical industry in the promotion of pharmaceutical education and fundamental research in its institutions. This support is of tremendous assistance in "bringing the quality up" of our instruction, our research, and our graduate programs. It is true that much has been accomplished with the support of the American Foundation for Pharmaceutical Education, for which we are truly grateful, but with the rapid rise in the costs of education and graduate instruction pharmaceutical education should receive greater financial support than it is now getting when compared to the support from the same sources to medical and dental education and research. More grants, not less, for the support of fundamental researches in the colleges and schools of pharmacy are in order. Witness the recently announced annual program of aid to education of the Du Pont Company whereby \$654,000 was allotted to strengthen the education of scientists and engineers, \$475,000 for fundamental research and even \$250,000 for capital grants for science and engineering facilities. Is this 1.4 million dollars from one concern a gamble on the part of this concern? This has been the policy of this company for years, and the rewards to it have been great. Just imagine the strides that could be made in "bringing

the quality up" in pharmaceutical education and graduate programs if our industry would allocate 1 per cent of its highly advertised research budget for this purpose alone. There is evidence that some foundations, made possible by the pharmaceutical industry of which we all have had a part, are allocating token sums to pharmaceutical education. In fact, some are allocating large amounts to causes far remote from pharmacy, the profession that made them possible. One of these foundations just recently announced the sum of \$180,000 for the promotion of the educational program in medicine. The same foundation not too long ago told the speaker, in rejecting a proposal for a grant, that the proposal was turned down because it felt that support for it should come from the federal government. This type of attitude leads to more and not fewer government controls.

#### **Pharmacy in Health and Education Legislation**

For years, pharmacy as a profession has been ignored in legislation in our national congress and even in our state legislatures. There are, no doubt, some justifications for some omissions but I am inclined toward the feeling that in the past because of "smallness" in numbers, because of our "over-organized," disunited professional status, because of our questionable professional and economic objectives, because our profession is overly directed by non-pharmacy trained individuals who lack the professional know-how and loyalty, these omissions occur. Therefore, pharmaceutical education, as well as the profession, has suffered.

A case in point is the recently presented Senate Bill 1072, "Health Professions Educational Assistance Act of 1961," which is designed to provide teaching facilities, scholarships, etc. Pharmacy and pharmacists are completely ignored in this bill.

It is imperative that each of you write the senators sponsoring the bill

(Hill, Kerr, Yarborough, Williams, and Pell) or have your senators see that the bill is amended to include pharmacy. Each of you as a committee of one and of the faculty should get in touch with your state association and members of the allied health professions calling their attention to such an omission. This is a recent example of lack of recognition of our profession which should not be allowed to go on unchallenged. We must assert vigorously our position in such matters as these because they deal with health education and we are a part of it. This type of recognition should be a number one objective under our central reorganization.

One other matter of legislation which should be discussed has to do with S. 3570 or the so-called Cooper Bill, which was introduced in the last Congress, and appears once again in the 87th Congress as H.R. 3556—the Moulder Bill—a companion bill, H.R. 1937, with Senator Cooper reintroducing his bill in the Senate. These bills purport to regulate the use of experimental animals by institutions receiving federal grants or working under federal contracts by licensing every scientist and by certifying laboratories. Since

these appear to be of the nature to strangle medical research with red tape, this organization should lend support to the National Society for Medical Research, an organization consisting of more than 500 national scientific and health members, which is opposing this legislation.

It has been a pleasure to serve as your president for a short term. Your officers and the Executive Committee have taken their responsibilities seriously and have met the problems facing the Association with deliberation and always to the best interest of the Association. Our thanks are extended to the committees and their chairmen, which have worked under the handicap of a shorter period of time to carry on their tasks and prepare reports for this annual meeting.

I should like to close with the following statement by one of our brilliant young educators and administrators: "There is no personal freedom so great as that which results from self-discipline. There is no educational waste so costly as intellectual anarchy." These thoughts become important as our efforts increase to "bring up the quality" of our educational and professional objectives.

## ADDRESS OF THE VICE PRESIDENT

In presenting his address before this Association the vice president should avoid, as far as possible, the subjects covered by the president and other officers. It would seem to be an appropriate time for the vice president to discuss those matters to which he would like the Association to give its attention during the coming year. President Burlage and Chairman Hewitt already have reported on many of the problems and other important affairs of the Association. How well I have been able to avoid duplication of their coverage remains to be seen, but I should like to discuss briefly with you four items which I feel are worthy of further study, as well as some action by this Association.

### Recruitment for Graduate Study

One of the long-range problems of the Association is the improvement of programs of graduate study in our colleges of pharmacy. It is not my purpose to review all of the many facets of this problem. This has been done by many others, including Dr. Melvin W. Green in 1955 (1) and more recently at the 1960 Teachers' Seminar (2), where Dean Glenn L. Jenkins gave a most provocative discourse on some of the basic conflicts we must face up to (3). The Committee on Graduate Programs presented in its report in 1956 a ten point list of objectives to which it has been giving its attention since that time in a series of excellent reports. We will look forward with interest to the completion of what the Committee describes as its ultimate goal, namely, the preparation of a guide and suggest-

ed policy to be used for the establishment and improvement of graduate study in schools of pharmacy. Meanwhile there is much solid material in their reports in each of the years since 1956 that would be most appropriate for further discussion by the Section of Teachers of Graduate Instruction.

One of our major problems is the encouragement of qualified students from our undergraduate ranks to go into graduate study. Although our current graduate enrollment is at an all-time high, we are not yet supplying the numbers of Ph.D. people in the pharmaceutical sciences that will be needed to staff the faculties of our colleges and the positions in pharmaceutical industry.

Our concern is not for quantity alone but also for quality. While the requirement for full admission to most graduate schools is a B average, most of them also will admit students on probation or on special status with an average somewhat lower than B. I dare say that, among the 917 graduate students enrolled for study in our member colleges in 1960-61 (4), a significant number of them are in this doubtful category. This undesirable situation would not exist if we had more qualified applicants from whom to choose.

Financial support for students in graduate study, although admittedly insufficient in terms of the amount per stipend, is available and will become even more readily available in the future. A few calculations from existing data will provide some significant conclusions. If we subtract from the total of 917 graduate students enrolled

in our member colleges for 1960-61 the 238 who are from foreign countries, it leaves a balance of 679 who are from the United States and Canada (4). If we add to the number of financial aids reported to be available to graduate students in our member colleges for the same year (5) the AFPE fellowships, it gives a total of more than 680 financial aids. It is obvious from these figures that there is available an assistantship, fellowship or internship for each graduate student from the United States and Canada who is currently enrolled.

This simple analysis indicates that we are not enjoying any degree of selectivity in our graduate student enrollment. It explains why there are available today in some of our member colleges graduate stipended positions which are not being used for lack of qualified personnel. It may also be in part the reason for the large percentage of graduate students from foreign countries (238 in a total of 917, or 26 per cent) in our current graduate enrollment. The acute problem at the moment is not so much one of support for more graduate students but of more qualified graduate students for the support available.

Two additional items of concern may be considered as unfortunate fall-out from this situation. The first of these is the excuse it gives to continue the undesirable practice of encouraging students to continue their graduate study in the same college where they obtained their undergraduate degrees. This Association adopted a resolution in 1949 to the effect that each member college inform its qualified graduating students of the opportunities for graduate study and of the special advantages to be gained in pursuing graduate work in an institution other than the one in which the undergraduate degree was obtained.

The Committee on Graduate Programs in its recent surveys asked the question, "As a general policy, do you believe that it is desirable for a student to have his undergraduate and

graduate training at different schools?"

The answers tabulated in their reports for 1959 and 1960 were "yes" in fifty-four of sixty-nine responses from the pharmaceutical industry; "yes" in 122 of 157 responses from currently enrolled graduate students; and "yes" in 210 of 263 responses from the faculties of our member colleges. Despite this overwhelming affirmative response, current data indicate that the opposite practice seems to persist to a great extent. Of the 679 total graduate students from the United States and Canada our member colleges have enrolled in 1960-61, 385, or 56.7 per cent, come from their own state and 294, or 43.3 per cent come from other states (4). Even after discounting these data by the knowledge that there are two or more member colleges offering graduate study in some states, it would appear that there is considerable inconsistency between what we say and what we do in the matter of advising our students regarding graduate study.

To get more accurate data on this subject for comparisons in the future, I recommend that the Committee on Graduate Programs modify its annual questionnaire on graduate enrollment data to determine the number of students who are enrolled for graduate study in the same institution from which they received their undergraduate training.

The second item of concern, which is closely related, is the aggressive and undesirable type of competition for graduate students that may arise among our member colleges that offer graduate programs. Admittedly, this is a delicate subject, but there have been disturbing indications of this type of activity which I am sure none of us wants to encourage. The best preventive is for all of us to redouble our efforts to interest more of our undergraduates to continue in graduate study.

Recruitment for graduate study is a problem in which each of our member colleges has an important stake and to which each can and should contribute in its solution. Dr. Green (2) has pointed



out this obligation very well; he has also stated that eleven schools apparently have never produced a graduate teacher from their enrollments and several others have sent only one, two, or three of their students into graduate work and, subsequently, into teaching. This reminds me of the southern university that is reported to have advertised the slogan, "Send your daughter to our campus and we will return you a son-in-law." Perhaps we could give advice of similar nature to some of our member colleges in their quest for teachers.

With 3,600 seniors currently graduating from our member colleges, if each of us were successful in steering 10 per cent of each graduating class into graduate study, the results would go a long way toward solving our problems of both quality and quantity. That figure is not too high for us to set as our goal. It is true that most of our students who enter the college of pharmacy do so with the aim of preparing for professional practice. But many of these make the decision to continue in graduate study, once they have been made aware of the opportunities. In addition, because of the increased emphasis on science and better counseling in the high schools, an ever-increasing number of our entering students in pharmacy have as their goal a career of scientific research. We must identify both types of students early in their academic careers and nurture their interests and abilities in every way possible.

Although the length of the five-year program may discourage some from considering graduate study, it offers an opportunity to correct some of the handicaps we suffered from the four-year program in preparation for graduate work. In general, the pharmacy curriculum is not the best foundation for graduate study because of its applied nature; graduates in such areas as chemistry and biology are better prepared. But the five-year program, if properly planned, can provide the flexibility needed for the qualified student to prepare himself more adequately in mathematics, chemistry, and the bio-

logical sciences for graduate work. It also provides opportunity for him to elect special problems courses and minor research projects to whet further his appetite and stimulate his desire for graduate study.

It is my belief that pharmacy will be better served if we have fewer graduate programs of high quality instead of a larger number of programs of mediocre quality. Although there are many attractions and seeming advantages in the establishment of graduate programs, even at the M.S. level, there also are many pitfalls. Some of our colleges would be well advised to consider whether their contribution would not be greater in the long run if they concentrated their efforts, instead, on the encouragement and preparation of their qualified undergraduate students for graduate study under the opportunities that the five-year program will bring. Many sources of support for research are available today and more will become available in the future from such agencies as the National Science Foundation, the U.S. Public Health Service, and others. With this support, faculty members in any of our member colleges can provide stipends for their advanced undergraduate students to assist in their personal research projects. This experience would also give those same students the motivation and encouragement to continue in graduate study.

I believe that the problem of recruitment for graduate study is one that deserves intensive study by a special committee that will bring to us specific suggestions and recommendations as a result of its study. The Committee on Graduate Programs is more of an evaluating committee which is still engaged in the accomplishment of the objectives set for it in 1956. The Committee on Recruitment Aids is now involved in another important assignment with the Science Fair Program.

Therefore, I recommend that a special Committee on Recruitment for Graduate Study be appointed to make a study of ways and means by which our member colleges and their faculties may become

more effective in recruitment of qualified undergraduate students for graduate study. I further recommend that this committee make a progress report at our 1962 meeting.

#### **Evaluation of Teachers' Seminars**

In the past twelve years we have completed two full cycles of the teachers' seminars, and there can be no doubt that they have been a significant factor in the improvement of teaching in our member colleges. I have had the opportunity to attend seven of them and have read the proceedings of the other five. In all of these there is accumulated a wealth of material which all of our teachers can study with great profit. Our Association is continually grateful to the American Foundation for Pharmaceutical Education for its support of this program.

The modified plan, which we approved two years ago, providing for a general seminar for all areas of the curriculum every third year, should strengthen our program in the future. It will answer the most commonly heard criticism that the time interval between seminars for the separate disciplines in the past has been too long.

Most of us will recall that the proposal for these seminars was made originally by the late Dr. Edward C. Elliott, director of the Pharmaceutical Survey. We quote from the findings and recommendations of that Survey:

The primary purpose of these seminars is that of providing needed opportunity for the members of the teaching staffs, and for graduate students to come into fruitful contact and to keep pace with progressive content and methods of pharmaceutical teaching.

Would it not be appropriate and beneficial at this point for us to have a rather thorough evaluation of our teachers' seminars, to determine (1) if they are achieving their primary purpose; (2) if they offer potential values which have not been fully realized; and (3)

if there are ways and means of improving them?

We should never become so satisfied and complacent that we fail to ask ourselves whether there are better ways of doing what we are trying to accomplish. Last summer I had the pleasure of sitting in on an Institute on Hospital Pharmacy, conducted by the American Hospital Association in cooperation with the Division of Hospital Pharmacy of the A.Ph.A. and the American Society of Hospital Pharmacists. The objectives of those institutes are generally similar to those of our teachers' seminars. I was greatly impressed with the thoroughness of the planning and implementation of this institute. It was a real educational experience, and I believe that we could learn some lessons from them.

From my discussion of this subject with many teachers in our member colleges, the people for whose benefit our seminars are primarily aimed, I am convinced that a thorough study of them would be worthwhile. At the 1960 Seminar in Boulder, Dean Joseph B. Sprowls reported the results of a questionnaire survey on the influence and effect of the previous teachers' seminars that have been held. The general comments in those questionnaires, which he did not report but which he kindly made available to me, furnish additional support for the desirability of this study. At the end of his report Dean Sprowls stated:

In conclusion, the author suggests an extensive survey to determine the achievements and failures of the teachers' seminars. This small venture proved to be interesting and enlightening, but a great deal more could be accomplished. It is believed that with adequate planning and more time for completion, such a survey would be highly beneficial to those who plan for the future.

Therefore, I recommend that a more thorough study and evaluation of the teachers' seminars be made and that the Executive Committee be directed to ap-

point a special committee to implement this recommendation.

#### **Fee for Certification on Applications for Reciprocity**

One of the long-time needs of this Association, a full-time secretary and a central office, should be filled in the coming year. The current status of this matter already has been reported to you by Chairman Hewitt and others at this meeting. At the same time this address was written, I did not have the latest information on the status of our request to the American Foundation for Pharmaceutical Education for funds to support this office. Regardless of the outcome of that request, I should like to present to you a proposal which would permit this Association to supplement its income from a service that is rendered by each of our member colleges. This idea is not original with me; it was suggested to me by the dean of a member college, and I endorse his proposal.

Each year in this country approximately 1,500 pharmacists obtain the benefit of reciprocal licensure in a state other than the one in which they were originally licensed by examination. For this privilege and the services rendered in processing the application they pay a fee to the National Association of Boards of Pharmacy and also one to the individual state board of pharmacy that is involved. For those who are graduates of colleges of pharmacy an additional essential service is rendered at no charge to the applicant, namely, certification by the college of the record of pharmacy education and of graduation. Does it not seem a bit incongruous that the colleges of pharmacy, which provide the essential educational training that makes it possible for pharmacists to achieve reciprocity, are not compensated for the services they render in this process? Would it not be reasonable for the applicant for reciprocal licensure to pay a modest fee for this service also?

With the establishment of a full-time secretary, if this proposal were to be

implemented, we would have a central office, comparable to the NABP office, through which the applications could be sent and the certification fee paid for deposit in the Association treasury. There are other questions and ramifications which would need to be explored, but in my opinion this proposal is worthy of further study.

Therefore, I recommend that the Executive Committee be directed to study the feasibility of the proposal for the Association to be compensated for certification of pharmacy education and graduation records by member colleges on applications for reciprocal licensure. I further recommend that the Executive Committee make its report and recommendations at the 1962 meeting.

#### **The Internship Requirement**

This problem continues to be a hardy perennial; in looking back over the meetings of our Association during the past several years, there have been very few when it has not been the subject of one or more resolutions. That record, in itself, is evidence of the interest and serious concern with which the problem is regarded by pharmaceutical education.

There are some among our friends on the boards of pharmacy who hold the view that this is not the business of the educators, and surveys indicate that some of our colleagues in this Association agree with them. I hold the opposite view for two reasons. First, as educators we cannot hold ourselves aloof from any part of the total training that goes into the preparation of a pharmacist; and second, the internship program, if properly planned and implemented, can constitute an important type of continuing education for both the intern and the preceptor, the benefits of which will extend far beyond mere compliance with a legal requirement.

At the other extreme, there are those who advocate that supervision of the internship requirement be taken over by the colleges of pharmacy. Regardless of individual viewpoints and convictions, it seems to me that three basic condi-

tions must be met, if our students and graduates are to have a meaningful internship training experience: (1) There must be suitable places where the internship can be carried out; this requires the support and cooperation of pharmacy owners and proprietors. (2) There must be suitable preceptors who are willing and able to supervise the interns; this requires the support and cooperation of all pharmacists, whether they are owners or employees. (3) There must be a planned program designed to meet the educational objectives of the internship requirement; this requires the support and cooperation of practicing pharmacists, educators, and state board members.

Most of us would probably agree that this problem must be solved at the state level. There are encouraging reports from some of the states that progress is being made in a cooperative approach by the three groups, i.e., boards, colleges, and practicing pharmacists, who must become involved in it. We will await with great interest further reports in the future as these groups gain experience with their programs. Meanwhile, what can our Association do to lend support and encouragement to the improvement of the current internship picture?

Since the preceptor is the key figure in any internship training program, perhaps it would be well to start with him. Undoubtedly, there are many conscientious pharmacists who are serving as preceptors without knowing very clearly either what is expected of them or how to do what they are supposed to do. They probably have never been told. And there is probably an equally large number of potential preceptors who would cooperate in such a program if they were provided with this informa-

tion. I believe that tremendous improvement could be made if these people were given guidance in the form of a preceptor's training manual that would tell them why, what, and how. Such a manual, developed by a joint committee of this Association and the NABP, could serve as a stimulus to similar committees in each state who might adopt it, in whole, in part, or after modifications, for their own purposes.

Therefore, I recommend that the Committee on Curriculum explore the possibility of a preceptor's training manual for use in the internship training program, and if found desirable that the committee recommend ways and means to implement it as a joint project of the AACP and NABP.

In closing, may I thank you for the privilege of bringing you this address and for the honor you have bestowed upon me. I assume the office of president with the hope that I will merit your confidence and with the knowledge that the progress made by our Association is largely the result of the effective work of our committees. Your continuing cooperation and support are earnestly solicited for the coming year.

#### References

- (1) Green, Melvin W., *Am. J. Pharm. Educ.* **19**, 466 (1955).
- (2) Green, Melvin W., *ibid.*, **24**, 492 (1960).
- (3) Jenkins, Glenn L., *ibid.*, **24**, 501 (1960).
- (4) Hewitt, H. G., *ibid.*, **25**, 128 (1961).
- (5) Graduate Enrollment Data, September, 1959, and Graduate Study in Member Colleges, 1960-61 (Report compiled by the Committee on Recruitment Aids).



# Reports

## INDIVIDUAL REPORTS

### REPORT OF THE SECRETARY-TREASURER

The cliché, "this has been a busy year for the Secretary," has become much more meaningful to me during the past eight months. I now realize the time required of those who have preceded me in this Association office.

#### Meetings

On August 12, the secretary with six representatives of the Association met with Dr. Elmer H. Hill, chief, Public Health Traineeship Unit, U.S. Public Health Service, in regard to public health in the curriculum of schools of pharmacy. A detailed report of the meeting and a resolution are included in the report of the Committee on Curriculum. No further comment is essential at this time.

During the week of August 15, two special meetings of the Executive Committee were attended. The first was concerned with the time of the 1962 meeting with the American Pharmaceutical Association, subsequently set by the A.Ph.A. for the week of March 25. The second meeting was with Dr. E. C. Albritton, Division of Research Grants, National Institutes of Health, regarding the compilation of research problems in pharmacy. The project was approved by the Executive Committee at its interim meeting in November but has not been initiated as yet pending the selection of an editor-in-chief. It is hoped that the Association will receive a research grant to support this work.

The interim meeting of the Executive Committee was held in Chicago, November 10-11. The minutes were mailed to member colleges

and have been published in the Winter issue of the *Journal*.

The secretary, together with the president and the chairman of the Executive Committee, met with the members of the American Council on Pharmaceutical Education on January 10 in Chicago, and on January 12-13 he met with the Committee on Teachers' Seminar in Madison, Wisconsin.

On January 24 and February 24 the secretary attended, respectively, the meeting of the Board of Directors of the American Foundation for Pharmaceutical Education and of the Executive Committee of the Foundation. Chairman Hewitt will report on these meetings.

#### Meeting with ACPE

During the one-half day meeting with the members of the American Council on Pharmaceutical Education, six subjects were discussed, four of which will be referred to here. The first was the 150-week residence requirement for graduation as stated in the *Accreditation Manual* (Sixth Edition). This item received attention since some universities admit students with credit for advanced courses taken in high school and/or on the basis of advanced placement test scores. Schools may thereby deviate from the accreditation standards if fewer than 150 weeks are required for graduation. The consensus was that the standards should be revised and not be in conflict with sound academic policy.

The second subject discussed was the admission of students to the professional curriculum from junior colleges holding limited accreditation. The opinion was that the acceptance or rejection of junior college credit is a function and prerogative of the institution. However, I am sure this does not mean that the Council will cease giving attention to admission procedures and the qualifications of students admitted by member schools and colleges.

The third item was that of academic standards for students entering graduate study. This subject was discussed since all institutions offering graduate work are not members of the Association of Graduate Schools, thereby permitting practices not commonly regarded as standard for such schools. Although the Council does not have jurisdiction in standards for graduate study, it was the opinion that practices regarded as standard in graduate instruction should be adhered to by all colleges offering such work.

The last item to be considered here had to do with what is being done to implement the recommendation of the Pharmaceutical Survey on continuing education for pharmacists. It was the consensus that this recommendation is being implemented to a considerable extent, as evidenced by the number of seminars now offered and by the annual increase in the number of such seminars. Although the Council cannot require all colleges to offer work in continuing education, it is the Council's recommendation that all do so, if feasible. It was expressed that some seminars are not truly refresher courses.

#### **Legislation**

At least three pieces of proposed legislation of direct interest to the members of the Association have been introduced in the current Congress as of April 1. The one of greatest interest to those in pharmaceutical education is S. 1072, which was introduced February 24 by Senator Lister Hill of Alabama, chairman of the Senate Committee on Labor and Public Welfare. This bill, the subject of my memorandum of March 27, would accomplish three objectives: (1) grants for the construction of medical, dental, osteopathic, and public health teaching facilities; (2) scholarship grants to schools of medicine, osteopathy, or dentistry; and (3) the extension and expansion of research facilities grants. These objectives would be achieved by amending the current Health Research Facilities Act.

Amendments designed to include pharmacy in the legislation have been prepared with the hope that they may become a part of the bill before hearings are held. Whether

this can be accomplished is unknown at this time.

The amendments, as proposed, would make pharmacy schools eligible for grants for teaching facilities and for scholarship grants for the minimum professional program of three years, and would include pharmacy, by name, in the Health Research Facilities Act.

At the appropriate time your support in having pharmacy included in the bill will be most essential. I shall make every effort to keep you informed of the progress of this bill during the next few months. The active support of the Washington representative of the National Association of Retail Druggists has been most helpful as we work toward our objective. Also, as in our efforts of last year, we are assured of the support of the American Pharmaceutical Association.

On January 26, Mr. Fogarty of Rhode Island introduced H.R. 3438. This legislation would make scholarships available to students of medicine and dentistry. I believe this is the same bill introduced by Representative Fogarty in the last Congress. In view of the all-inclusive nature of the Senate bill, however, it would appear to be advisable to concentrate our efforts on that legislation.

Last year some three bills were proposed which would "provide for humane treatment of animals used in experiments and tests by recipients of grants from the United States." To date, at least one such bill (H.R. 1937) has been introduced in the 87th Congress. Should this legislation become law, each person using animals for experimental purposes under a grant from the government would be required, among other things, to have a "certificate of compliance" assuring that he would comply with a number of specified conditions. In addition, he would be required to be licensed by the Secretary of Health, Education and Welfare before he could engage in experiments or tests on animals obtained under federal grants.

At its last interim meeting, the Executive Committee went on record as supporting the National Society for Medical Research in its opposition to such legislation and requested that the deans write their congressmen stating their opposition to such bills as H. R. 1937.

One piece of legislation (H.R. 10341) from the 86th Congress, of interest to the members of this Association, became P.L. 86-798. This law provides for "grants-in-aid to universities, hospitals, laboratories, and other public or non-profit institutions to strengthen their programs of research and research training in sciences related to health." During the first year awards will

go only to schools of medicine, dentistry, and public health. However, it is planned that the program will be extended to other types of institutions in the second year at which time schools of pharmacy probably will be included.

#### **Manpower Survey**

At the interim meeting of the Executive Committee, the secretary reported on a meeting of an ad hoc committee held August 12 with Dr. William Stewart of the U.S. Public Health Service. The objective was to explore the possibilities of conducting a manpower survey for pharmacy. As a result of the conference Dr. William S. Apple was designated as chairman of a committee to determine if information essential to such a study could be provided.

Dr. Apple, Dr. George F. Archambault, and your secretary met again with Dr. Stewart on April 12 at which time Dr. Apple reported that the American Pharmaceutical Association has a microfilm of the names and addresses of approximately 100,000 pharmacists.

Both a plan of procedure and the approximate cost of the total manpower survey were discussed, the figure for the estimated cost being set at \$50,000. The next steps will be to prepare the necessary questionnaires and to find a source of funds. I need not state which will be the easier.

In order that the manpower survey may

be complete, information on the number of applicants to pharmacy schools, the capacity of our physical plants for undergraduate and graduate students, and similar essential facts must be obtained. Thus, if the funds are obtained and the survey carried out, more questionnaires will be necessary to gather this information from our member schools. Although some information has been gained this year by the Committee on Future Enrollment Problems under the chairmanship of Dean Wilson, I am sure additional facts will be necessary.

If this survey becomes a reality, I hope that each of you will consider the importance of the project and cooperate to the fullest. Accurate and meaningful information about our existing manpower, our manpower needs, and our ability to provide the essential personnel is a most fundamental need. Without such information we cannot speak with certainty when the demand arises. The inability to so speak has handicapped us in many instances in the past two decades. Now that progress is being made, I know that the aid of member colleges will be forthcoming.

As the end of the first nine months of my year as your secretary approaches, I wish to express my thanks to each of you upon whom I have called for help and guidance. Your cooperation has been most helpful and has aided in achieving our common objective for pharmaceutical education.

Charles W. Bliven, Secretary-Treasurer

# American Journal of Pharmaceutical Education

## INTERIM REPORT OF THE TREASURER

August 1, 1960 through March 31, 1961

### Receipts

<i>American Journal of Pharmaceutical Education</i> .....	\$10,131.51
Subscriptions .....	\$2,604.32
Reprints .....	502.05
Single copy sales.....	20.50
AFPE grant.....	7,000.00
Refund on 2nd class mail fund.....	4.64
Dues .....	15,750.00
Teachers' seminar .....	8,507.50
Sale of <i>Proceedings</i> .....	7.50
AFPE grant .....	8,500.00
Interest on bonds.....	213.90
Exchange .....	0.26
Roster of Teachers.....	4.00
American Pharmaceutical Association refund for recruitment aids funds.....	601.34
<b>Total</b> .....	<b>\$35,208.51</b>

### Disbursements

Office supplies .....	\$ 423.53
Postage, telephone, and telegrams.....	251.50
Secretarial salaries—(less taxes withheld but not paid, \$153.34).....	3,133.21
Secretary-Treasurer .....	\$2,319.48
Editor .....	813.73
Employer's share FICA.....	84.29
FICA Employee's share withheld but not paid as of July 31, 1960.....	21.62
<i>American Journal of Pharmaceutical Education</i> .....	9,578.29
Teachers' seminar .....	1,272.27
Interim meeting of Executive Committee and of officers with ACPE.....	1,897.24
Annual meeting .....	532.10
Dues and allotments.....	2,733.50
Expenses of representatives and delegates.....	469.80
Committee expenses .....	504.09
Fidelity bonds .....	131.25
External audit .....	110.00
Honoraria .....	2,100.00
Miscellaneous .....	27.69
Exhibits .....	851.34
Moving of editor's and secretary's offices.....	355.02
Committee for Selection of Executive Secretary.....	635.04
<b>Total</b> .....	<b>\$25,111.78</b>

### Statement of Cash Receipts and Disbursements

Cash balance August 1, 1960.....	\$13,368.44
Cash receipts to March 31, 1961.....	35,208.51
<b>Total</b> .....	<b>\$48,576.95</b>
Cash disbursements to March 31, 1961.....	\$25,111.78
Cash balance, March 31, 1961.....	\$23,465.17

### Other Assets

U. S. Government bonds, face value.....	\$10,000.00
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## REPORT OF THE CHAIRMAN OF THE EXECUTIVE COMMITTEE

The minutes of the Executive Committee meetings held in Boulder, Colorado, July 1, 2 and 5, 1960, and the interim meeting held in Chicago, Illinois, on November 10 and 11, 1960, have been distributed to all member colleges and published in the pages of the *Journal*.

I feel certain that as one reviews the activities of the Executive Committee for the past year he will see definite progress toward an extension of the Association's services to the members and the profession alike.

All too often we take for granted the services of our officers, committee members, and the membership of our Association. I want the privilege of expressing for you our appreciation for their many hours of dedicated service. A particular "thank you" should go to our secretary-treasurer, Charles W. Bliven. He has been a most able officer. The business of the Association has been cared for with the promptness and thoroughness which those of us who knew him were certain would be characteristic of his secretaryship. He has made many friends for us in educational and governmental circles who will be helpful in the problem years ahead. I wish publicly to add my personal thanks to him for the hundreds of hours he has applied to our problems. My contacts with him have been pleasant and profitable in the furtherance of the Association business. I hope that he will be with us as secretary for many years to come.

### Our New Outlook

No single move by the AACP in recent years offers as much promise for our Association as moving toward the creation of a permanent office in Washington, D.C. and the appointment of a full-time secretary-treasurer. As you know this has been made possible by two moves, one, the increasing of our annual dues from two hundred to five hundred dollars per year, effective this year, and two, the underwriting of the full cost of the publishing of the *American Journal of Pharmaceutical Education* by the American Foundation for Pharmaceutical Education. This increase in support by an additional seventy-five hundred dollars plus the income from increased dues offers the long-sought-for opportunity to establish this office on a full-time basis.

It is important that we realize that while there is an increase in income for this purpose, the budget will be tight for the next

few years and we will have to use some good old Yankee thrift to operate in the black. This means, of course, that every committee appropriation and every expenditure will be carefully examined in light of a balanced budget. I know that each chairman will live within his budget and that other economies will be practiced until we find other sources of income for the expansion of our program.

The supervision of our program on a full-time basis will bring added dividends to our schools and individuals when this expanded program becomes fully effective. The members of your Executive Committee welcome suggestions for added long-range programs and other ways in which we can be of service to our schools and individual members. We can now view and plan for programs involving long-term objectives and be active in watching for legislation which is either detrimental or beneficial to our public health profession with particular notice of such legislation as affects our educational institutional programs in both teaching and research.

I repeat, I know of no project which has been inaugurated in past years which offers more promise for our Association than that of the establishment of our permanent office and full-time secretaryship. With your support I am certain that this marks the beginning of a new era of service and accomplishment for the American Association of Colleges of Pharmacy.

### Questionnaires

On authorization of the Executive Committee, the chairman conducted the annual surveys of Student Enrollment, Summer Session Course Offerings, and the Study of Positions Available in our Schools for 1960-61. The first was the usual statistical analysis for the record and for information needed for board statistics and for projected studies of manpower. This year for the first time we also included a Geographical Distribution of Students in both the undergraduate and graduate groups. These statistics have been requested of us a number of times in the past. We now, for the first time, have such a study for the use of governmental and educational agencies. It is my belief that this type of information, with possibly an improved form of tabulation, should be continued.

May I make an appeal to the deans and suggest a number of aids toward more effective



tive operation of all studies in the tabulation of results:

1. I hope that all will be prompt in the return of the questionnaire by the deadline established on the form. We need adequate time to draw up such information. We have the same delinquents who require a second and even a third request for the return of such questionnaires.
2. It would be most helpful if the administrative officers of our schools would remind their staff members proposing to canvass our schools that the questionnaire must be authorized by the chairman of the Executive Committee prior to being undertaken in the name of a committee of the Association. Unauthorized questionnaires will be answered only through the kindness and good graces of the recipients of such documents. When I write to remind them of this upon receipt of such an unauthorized study, they are most embarrassed to learn of the existence of such a requirement.

The approval of the questionnaire is designed to (1) reduce the number of questionnaires that come to your desk, and (2) to reduce the labor in member colleges induced by questionnaires covering data already available.

Each authorized questionnaire should carry the notation, "The subject matter of this questionnaire has been approved by the Executive Committee." Every questionnaire form should be sent to each respondent in duplicate in order to provide him with a work sheet.

I shall ask the Executive Committee to authorize again the studies of the Enrollment Data, the Study of Teaching Positions Open for the next academic year, the Listing of Summer School offerings and the Geographical Distribution Study, as well as those involving the biennial study of Salary Surveys and the publication of the *Roster of Teaching Personnel*.

#### **Degrees Conferred**

The detailed report of the degrees conferred by our schools and colleges for the academic year 1959-60 is published in the Winter Issue of 1961 of the *American Journal of Pharmaceutical Education*, page 110.

Briefly, there were 180 fewer Bachelor degrees, thirteen more Master's degrees, eighteen fewer Doctor of Philosophy degrees, nine fewer Doctor of Pharmacy degrees, and two more honorary degrees granted than in 1958-59.

#### **Report on Enrollment**

May I remind you that for the last two years these statistics have included only the last three years of training, whether the students are in the four- five- or six-year programs. This gives some valid comparative value to our enrollments.

The detailed report by schools and districts is published in the Winter Issue of 1961 in our *Journal* on pages 111 to 116 inclusive.

A few of the high spots are recorded here:

1. 1960-1961, in their last three years of training, found an increase of 1,077 students over 1959-60. This total of 13,606 is a gain of 8.6 per cent over 1959-60.
2. There are forty-six more or an increase of 1.3 per cent in their last year of training.
3. There are 200 more women or an increase of 13.6 per cent.
4. All districts except District 7 showed increased enrollments over last year.

#### **Geographical Distribution**

I believe you will find this study an interesting one and it is reported in the Winter Issue of 1961 of the *American Journal of Pharmaceutical Education* pages 120 through 131, inclusive. Migration studies, foreign and domestic student distribution, debtor and creditor training areas, and other details may be drawn from these tabulations.

A few high spots follow:

1. Seven of our fifty states offer no training in pharmacy.
2. Forty-four foreign countries sent 161 trainees to our member schools for undergraduate training.
3. Twenty-one of our schools had no foreign undergraduates.
4. Five of our schools had more undergraduates from other states in training than from their own state.
5. Four of our schools had no out-of-state or out-of-province undergraduate trainees.
6. At the graduate level, thirty-eight foreign countries sent 238 students to thirty-four of our schools for advanced training.
7. In training within their own state schools, in schools in other states or from foreign countries, fifty-two of our schools giving graduate work had 917 trainees enrolled.

#### **Summer Course Survey**

This study is in its second year and has found greatly increased acceptance if requests for copies of this report are any criteria. There is one factor which would

result in wider use of this report by students seeking places for summer training, and by staff in their advisement program. I mean that it would be more useful if the deans would make this available and not place it in their files or wastebaskets. Possibly more copies should be sent with one going to the librarian. Any suggestions for increasing usefulness of the study will be most welcome. Also any additional information or correction in the form would be helpful. I welcome any suggestions for improvement in this tabulation.

#### **The Journal**

I trust you will permit me to take a little of your time to express the pleasure of the members of our Executive Committee, and I am certain I speak for all members of the Association, concerning the excellence of the Winter issue of the *Journal*. We congratulate Editor C. Boyd Granberg on the excellence of the format and copy and look forward to his editing of our *Journal* in the years ahead.

#### **ACPE and AFPE**

We express our deepest appreciation for the services rendered our schools by the American Council on Pharmaceutical Education and the American Foundation for Pharmaceutical Education. Their service in advancing the standards and their assistance in our operations leave little to be desired.

We are most thankful to Drs. George Beal, Patrick Costello, Melvin Green, and Herbert E. Longenecker for their part in the development of the stature of the ACPE to the high position it holds in educational circles, and to the examiners who so loyally give of their time for the visitations to our schools.

From its inception, the aid of the American Foundation for Pharmaceutical Education

given to our schools and colleges has been invaluable. The help during the war years, the financial support of the Pharmaceutical Survey, the Recruitment Aids Program, all merit our thanks. This is not to state that we are unappreciative of the \$1,432,617 given for 409 graduate fellowships and the \$471,406 given for 1,992 undergraduate scholarships from 1942 through 1960. The sponsorship of our teachers' seminars and the support of the *American Journal of Pharmaceutical Education* are further evidences of needed and appreciated support of the Foundation. We express our thanks to President C. Doerr, Secretary and Executive Director W. Paul Briggs, and the Board of Directors for their aid, as well as for the support of many contributors to the AFPE. All of us have benefited directly or indirectly by these many philanthropies.

#### **Next Year**

With the appointment of a full-time secretary to our new office in Washington, D.C., we can look forward to greater opportunities to be of service to our members. Naturally, it will take some time to gain full momentum in being of maximum usefulness to our Association. With an able secretary and the cooperation of our members, we cannot help amply justifying this expenditure. I predict a bright future for this office.

To the officers and members of our Association, I wish to express my thanks for the kindness shown me in their complete cooperation in carrying out the duties of the Executive Committee. The work has been fun even though time consuming. I thank each of you for the privilege of serving the Association as chairman of your Executive Committee.

H. G. Hewitt, Chairman  
Executive Committee

#### **REPORT OF THE AMERICAN COUNCIL ON PHARMACEUTICAL EDUCATION, INC.**

The following constitutes the twenty-ninth annual report of the American Council on Pharmaceutical Education, Inc., to its sponsoring organizations, the American Pharmaceutical Association, the National Association of Boards of Pharmacy, and the American Association of Colleges of Pharmacy. This report covers the period from the February, 1960, meeting of the Council to the January, 1961, Council meeting.

#### **THE COUNCIL AND BOARD OF DIRECTORS Membership**

The Council is composed of ten members who also constitute the board of directors. Each of the three sponsoring organizations appoints three representatives to serve as members of the Council, and the American Council on Education appoints one representative to serve as a member. The present membership of the Council is as follows:

Representing the American Pharmaceutical Association	Term Expires
George D. Beal, president, Pittsburgh, Pennsylvania.....	July 1, 1962
Robert P. Fischelis, Washington, D.C.....	July 1, 1964
William S. Apple, Washington, D.C.....	July 1, 1966
Representing the American Association of Colleges of Pharmacy	
Joseph B. Burt, vice president, Lincoln, Nebraska.....	July 1, 1962
Louis C. Zopf, Iowa City, Iowa.....	July 1, 1964
*Linwood F. Tice, Philadelphia, Pennsylvania.....	July 1, 1966
Representing the National Association of Boards of Pharmacy	
P. H. Costello, secretary-treasurer, Chicago, Illinois.....	July 1, 1962
†Fred T. Mahaffey, Chicago, Illinois.....	July 1, 1964
Robert J. Gillespie, St. Joseph, Michigan.....	July 1, 1966
Representing the American Council on Education	
Herbert E. Longenecker, Chicago, Illinois.....	July 1, 1962

#### **Executive Officers of the Council**

At the annual meeting of the board of directors held in Chicago, Illinois, on January 10-11, 1961, George D. Beal, Joseph B. Burt, and P. H. Costello were elected to serve respectively as president, vice president and secretary-treasurer for the ensuing year. Dr. Melvin W. Green, who has served as director of Educational Relations since September 1, 1952, continues to serve in that capacity.

#### **Meetings**

The Council held two meetings during the period covered by this report. The annual meeting, preceded by the regular annual meeting of the Corporation, occurred on February 11-12, 1960. This meeting, which was held at the University Club, Chicago, Illinois, included a joint meeting with representatives of the Executive Committee of the American Association of Colleges of Pharmacy. A meeting of the Council was held, also at the University Club, Chicago, Illinois, June 16, 1960. Only the highlights of the meeting held in Chicago, Illinois, January 10-11, 1961, will be covered at this time.

#### **Academic Qualifications of Faculty Members**

During the year the Council issued a statement of explanation concerning the standard for the faculty, 4c, relative to the place of persons holding the Doctor of Pharmacy degree in teaching positions. The statement, which was sent to all pharmacy deans, is the following:

The Council wishes to call your attention to Standard 4c, page 17, of the

*Accreditation Manual*, Sixth Edition with respect to qualifications of faculty:

"The dean and heads of departments shall have completed at least three years of graduate study in their respective professional areas; other teachers of professorial rank, at least two years; those of the rank of instructor, at least one year. Technical or professional training or experience substantially equivalent to graduate study may serve in lieu of one or more years of such study to qualify members of the faculty. Examinations of colleges have shown, however, that strong faculties have invariably included a number of teachers qualified by virtue of substantial graduate study in addition to technical or professional training represented by the bachelor's degree."

In the interpretation of this standard, the Council recognizes that there may be certain course areas in which the holders of the Doctor of Pharmacy degree, based on four years of professional education after two or more years of preprofessional education, may render an effective service as a member of a faculty. However, it should be pointed out that this is not a graduate degree. On the basis of this standard and recognized academic practice, the possessor of the professional degree is not qualified for academic rank or to serve as the head of a department unless and until the possessor of this degree has acquired sufficient technical or professional training or experience to qualify for such a rank under this Council's standards. As a general principle persons holding the Doctor of Pharmacy degree as their highest degree are not regarded by the Council as eligible for teaching of graduate courses or direct-

\*Succeeded Tom D. Rowe (term expired), Ann Arbor, Michigan, August 14, 1960.

†Succeeded Frank W. Moudry (resigned), St. Paul, Minnesota, on January 10, 1961.



ing research leading to a graduate degree.

### Trimester Plans

The Council discussed, at some length, the proposals of various universities and colleges of pharmacy to hold sessions through the entire calendar year by trimesters and other means and publicity relative thereto. It was the sense of the Council that all standards of the Council relative to faculty, facilities, students, etc., as well as the total amount of time in school must be complied with and that no statements should be made in catalogs and other publicity which are misleading to students, prospective students and others because of unwarranted implications of shortening the program.

### Examination of Colleges

During 1960, twelve of the seventy-six accredited colleges were examined for the purpose of continuation of accreditation. The Director of Educational Relations participated in all twelve surveys and made two additional informal visits. At the formal examinations, the director, at least one member of the state board of pharmacy, and one Council member usually participated. Council members participated as follows: Dr. Zopf in three, Dr. Beal in one, Dr. Fischelis in two, Dr. Burt in two, Dr. Tice in two, Dr. Costello in one, Dr. Apple in one, and Mr. Gillespie in one. Every college which requested examination during this period was visited.

Of the twelve colleges examined during 1960, four were examined simultaneously with a full-scale regional association evaluating team; in one case, a regional association generalist was present during the Council examinations. A list of *Accredited Colleges of Pharmacy* was published on July 1, 1960, which bears the names of seventy-six colleges of pharmacy, all except one of which are in the continental United States.

In addition to the examinations and visitations, each college filed an annual progress report with the Council. The report is filed each year before November 1 and represents changes during the previous academic year. This report to the sponsoring organizations as to the status of the colleges represents, consequently, the situation during the academic year 1959-60 supplemented by findings upon examination during the first semester of 1960-61 and, sometimes, correspondence and other material.

The following represents a brief summary of the 1959-60 report of the accredited colleges:

### Administration and Organization

Seven institutions appointed new presidents during the past year, two colleges appointed new deans, and five appointed assistant or associate deans. One dean was elevated to the office of provost of the university, and one assistant dean was named dean of the graduate school. One university started a department of bionucleonics cutting across departmental and college lines and centered in the school of pharmacy.

### Budget

During the past year, budget decreases occurred in the following areas: salaries, one school; supplies and equipment, four schools; travel, two schools; and library, one school. Salaries were generally increased in sixty-four schools and remained about the same in ten; supply budgets were increased in thirty-three schools and remained about the same in thirty-six; equipment was increased in thirty-nine schools and remained the same in thirty-two; travel was increased in twenty-three schools and remained the same in forty-six; and library budgets were increased in twenty-seven schools and remained the same in forty-three schools. Two schools were able to add new manufacturing laboratories this year.

### Physical Plant

During the past year five colleges have erected new buildings, two built new wings on present buildings, and nine had significant increases in space allotted to pharmacy. Twenty-six schools indicated they they hoped to build new buildings within the next five years.

### Staff

Six full-time staff members retired last year and two died. There were sixty-nine resignations. Of those who resigned, twenty-one remained teachers in other pharmacy colleges and one as a dean, eleven continued their education, three went into government service, eleven went into industry, seven went into community pharmacy practice, one went into hospital pharmacy practice, one went into administrative activities with the A.Ph.A., and the others either went into miscellaneous non-pharmaceutical work or their whereabouts were not disclosed.

Offsetting these losses, sixty-three teachers were hired as replacements and thirty-five full-time new additions to the staff were made as well as eight part-time teachers.

### Admission and Promotion of Students

Only a few colleges made any significant change in the admission and promotion of

students last year except to initiate changes relative to the five-year program. Four schools made College Board examinations a requirement for admission for the first time.

During the past year thirty-nine colleges reported accepting a total of 148 students by transfer from other colleges of pharmacy. This represents a total of twenty-four more such transfer students than during the previous year. Twenty-six colleges reported no transfers from pharmacy colleges, fourteen reported one, three reported two, two reported three, one reported four, four reported five, one reported six, two reported seven, one reported eight, one reported ten, one reported eleven, one reported twelve, one reported fourteen, and one reported twenty-one transfers.

#### Seminars and Extension Services

During the year fifty colleges reported having one or more seminar, and six reported having none. Twenty-three colleges reported having a single seminar, and two colleges reported having a single seminar offered more than once. Sixteen colleges reported holding two seminars, one held three seminars, five held four seminars, one held five seminars, one held seven seminars, and one held more than ten seminars during the year. Two colleges reported having full-time directors of pharmacy extension and six reported having part-time directors.

#### Research and Publications

Fifteen staff members wrote books or laboratory manuals last year, thirty-nine wrote chapters in books. Four United States patents were granted to pharmacy staff members. Research papers were published as follows:

No. Papers	No. Schools	No. Papers	No. Schools
0	6	16-20	7
1-5	38	21-25	1
6-10	10	over 25	5
11-15	5		

The questionnaire did not ask for sources of grants nor amounts; however, sixteen reported grants totalling \$276,634. Three grants came from industry, two from foundations, one from the American Dental Association, and the remainder from some branch of the federal government.

#### Activities of the Director

During the year, the director spoke before the general teachers' seminar of the AACP and the Texas State Pharmaceutical Association and also made an address at the dedication of a new pharmacy research building at the University of Michigan. He attended the conventions of the A.Ph.A. and the AACP and the fall meeting of the American Council on Education. He attended, also, the meetings of the National Advisory Commission for Careers in Pharmacy, of which he is the Council's representative.

The director served as chairman of the Nominating Committee of the USP Convention, a member of the A.Ph.A. Committee on International Relations, chairman of the Committee on Awards of the American Institute for the History of Pharmacy, and as a judge for the Lunsford Richardson Award.

The director was asked, through the Council, to make a special survey for the Committee on Institutional Cooperation of the Council of Ten Plus the University of Chicago of the seven colleges of pharmacy within that group.

#### Financial Statement

January 1, 1960—cash balance on hand.....\$ 1,781.58

##### Receipts:

Texas Pharmaceutical Association.....	\$ 184.62	
Sponsors' contributions .....	6,000.00	
American Foundation for Pharmaceutical Education.....	30,000.00	36,184.62

##### Disbursements:

Rent and light.....	\$ 2,353.05	
Salaries .....	21,300.00	
Council meetings .....	1,876.48	
Inspection expense .....	4,530.60	
Printing .....	188.10	
Office supplies and equipment.....	623.49	
Postage, telephone, telegraph, express.....	621.64	
Miscellaneous, bonds, dues, etc.....	997.38	
Retirements .....	2,640.00	35,130.74

Cash balance on hand, December 31, 1960.....\$ 2,835.46

P. H. Costello, Secretary

REPORT OF THE EDITOR  
OF THE  
AMERICAN JOURNAL OF PHARMACEUTICAL EDUCATION

I have been editor of this journal for less than four months. However, it has been nearly sixteen months since I was informed by Chairman Hewitt that I was to be appointed the third editor of our journal. This has given me a lengthy period, much of it free of actual editorial duties, in which I have been able to do some thinking about the *American Journal of Pharmaceutical Education*.

The *Journal* is charged with being a journal of pharmaceutical education. It was originated and has been developed as a service publication. Its purpose is to inform, to report, and to disseminate methods, techniques, and regulations concerning pharmaceutical education in general. Its purpose also is to voice the common concern of the readers; to inform them about trends, events, and developments, and to facilitate their activity in their field of special interest to help them to become more able practitioners.

To determine for myself if the *Journal* is meeting this charge and fulfilling these purposes, I surveyed the last ten volumes, from 1951 through 1960. In making this survey I was interested to find out what kind of articles were being published and for whom they were written, by whom they were written, and why they were written. I think some of the results of this survey will interest you.

There were 501 articles printed in the ten-year period used for this survey. This does not include committee reports, delegate or representative reports, presidential or vice presidential addresses and the like, but represents those manuscripts that were submitted voluntarily or by invitation of the editors. Of the 501 total, 216 (43 per cent) were considered to be of general interest, that is, of benefit to teachers in all of the various disciplines of the pharmaceutical curriculum. Eighty-four of the 501 articles (16 per cent) were of primary concern to pharmacy teachers, including those teaching in the usual courses of this discipline as well as hospital and manufacturing pharmacy, animal health pharmacy, and cosmetics. Fifty-five of the articles (11 per cent) were devoted to pharmacy administration; twenty-three (4 per cent) to pharmacognosy (including botany); thirty-five (7 per cent) to pharmacology (including biology, physiology, toxicology, etc.); thirty-seven (7 plus per cent) to pharmaceutical chemistry; and fifty-one (10 per cent) of the articles were devoted to graduate instruction in the above areas.

When broken down into five-year intervals, there is an almost equal distribution of the articles in some of the areas and considerable variation in others. For instance, of the 216 general-interest articles of the past ten years, 109 were printed in the last five years and 107 were printed in the five years before that. Of the fifty-one articles stressing graduate instruction in the past ten years, twenty-six were printed in the last five years and twenty-five were printed in the five years before that. The greatest differences were noted in the articles primarily of interest to those teaching pharmacy administration (forty articles in the past five years compared to fifteen articles the preceding five years) and pharmacognosy (eight articles the past five years compared to fifteen articles the preceding five years).

In my opinion this is sufficient evidence that the *Journal* generally is fulfilling its purpose of (1) publishing articles of a specialized nature dealing with teaching in each of the specific areas of the pharmacy curriculum as well as (2) printing articles of a general interest to all pharmaceutical educators. It is a commendable record and one with which it would be difficult to find any serious disagreement.

Another point in making the survey was to determine why the published articles had been prepared originally. Of the same 501 articles just mentioned, 180 (35 per cent) were original in the *Journal*, that is, were submitted voluntarily for publication or were invited by the editors for publication in the *Journal*. Two hundred forty-four of the 501 articles were prepared for presentation to some pharmaceutical organization or group, e.g., the AACP, one of the sections of the A.Ph.A., one of the sessions of a teachers' seminar, before the Plant Science Seminar, or some other recognized pharmaceutical group. Sixty-two of the 501 articles had been prepared for delivery as a lecture, address, or for some other reason, and fifteen of the articles were of undeterminable origin. Thus, 64 per cent of the articles appearing in the *Journal* during the past ten years were not originally prepared for publication therein. This, I believe, is a weakness in our journal, one that can be eliminated, and one I would like to discuss a little more thoroughly.

On a number of occasions within the past four months I have received the suggestion that our journal should perhaps be more like the *Journal of Chemical Education* in regard to editorial content. The latter is an ex-

cellent journal, surely one of the finest in the field of professional publications. In order that I might have some exact information with which to further the comparison between the two journals, I wrote to the editor of the *Journal of Chemical Education* requesting some facts about that journal.

The *American Journal of Pharmaceutical Education* has a paid subscription list of 523 (as of April 1, 1961), only 50 per cent of whom are pharmaceutical educators; the *Journal of Chemical Education* has between sixteen and twenty times this number of subscribers. The *Journal of Chemical Education* operates on a yearly budget that is more than twelve times the yearly budget of our journal. Even when taking into account the fact that the chemistry journal is a monthly publication and ours is published quarterly, the per-issue budget of the former is more than four times the per-issue budget of the *Journal*.

The worth of a publication cannot be determined solely on the dollar value of the book nor the number of copies printed. More important is the support the publication receives from those who are eligible to contribute to its editorial content. Seventy-five per cent of the articles printed in the *Journal of Chemical Education* are submitted to the editor without solicitation. This includes papers that have been given before the meetings of the Division of Chemical Education at the national ACS meetings, although such presentation does not insure publication in the journal. A surprising fact I learned from the editor of the *Journal of Chemical Education* was that he is supplied with such an abundance of manuscripts that he is forced to reject nearly 50 per cent of the material submitted. And remember this is a monthly publication, not a quarterly. If I were to reject 50 per cent of the manuscripts submitted to me we would be reduced to a semi-annual journal or to a quarterly pamphlet.

My point in bringing these comparisons into this report is to emphasize that this journal will be what its readers desire it to be. The editor cannot do much more than to edit the material with which he is supplied. It is up to those who are interested in pharmaceutical education to supply original and novel papers for publication.

Before the editor of this journal can expect to be swamped with articles for consideration for publication, however, more pharmaceutical educators from more of our schools and colleges of pharmacy are going to have to become interested in the *Journal* and its future. A third fact revealed by the survey I conducted was that seventeen of the

schools of pharmacy belonging to this Association have not been represented in the pages of the *Journal* by published articles in the last ten years. Twenty-four schools—nearly one-third of the members of this Association—have not had an article contributed to this journal within the past five years. In addition, fourteen schools have had only one article published in this journal within the past ten years, and twelve schools have had only one article published within the past five years. Thus, thirty-six schools—nearly 50 per cent of the accredited schools of pharmacy in the United States—have been represented in this journal during the past five years with not more than one article by a member of their staffs. It is easy to see that someone is going to have to become stimulated and interested before results can be expected.

Let me hasten to say that I mean quality articles as well as quantity. It would not enhance relations between the *Journal* and its readers to have a rejection rate that would approach 100 per cent. I am confident that there is enough new, exciting educational research and experimentation being conducted in each of our seventy-six accredited schools of pharmacy in this Association that at least one article a year could be submitted to the editor of this journal for consideration for publication. If there is not, we need to take a careful look at our teaching methods.

At the risk of being misunderstood, I would like to make this observation. It has been made apparent to me within the past four months that there is the opinion among some pharmaceutical educators that anything is fair game for publication in this journal. This, of course, has never been true, and it must never be true. The *Journal* should not be considered as a repository for publication of a paper just because it has been presented at a pharmaceutical convention, seminar, or meeting. I appreciate the fact that many of the very best articles that have appeared in the *Journal* during its nearly twenty-five-year history have been articles of this kind. But we need to have more papers written expressly for the purpose of publication in the *Journal*. This should be mainly a magazine of new ideas—alert, lively, and interesting without sacrificing dignity and restraint. Robert Frost once wrote, "I'd as soon make love in Lover's Lane as write for the little magazine." This journal is a little magazine. I cannot know the morals of all pharmaceutical educators, but I hope there are enough of them with sufficiently high morals who are willing to write for a little magazine.

This journal is a part of the program of



the AACP—it is the official publication of the Association. Unfortunately, the Association is made up of inanimate educational institutions, thus they cannot feel that the magazine belongs to them. This journal is supported financially to the extent of nearly 75 per cent of its budget by a second organization, the AFPE, and it too is not capable of having a sense of belonging to the publication because it is an organization of inanimate business institutions. The *Journal* is edited with a third group in mind—a group made up of animated individuals—primarily the pharmaceutical educators of the United States. In my opinion, one of the editor's major responsibilities is to cultivate in this third group a we-are-all-in-this-together psychology, to develop the idea that the editorial "we" in this situation are the editor and the subscribers. I think one of the primary purposes of the editor is to call attention to the *Journal*, to stimulate interest in it, and to try to gain a favorable response from the pharmaceutical educators of this country.

I have been pleased with the apparent acceptance of the new design and lay-out of the *Journal*, and I express my thanks to those who have written of their approval. I thrive on praise and approval, yet I recognize that if a sense of proprietorship can be developed in the readers of this journal that there is likely to be criticism of the publication, sometimes negative. I know that this is healthy and desirable, and that I can learn from reactions against as well as from those that are favorable. So I welcome criticism (especially the constructive kind) and suggestions for change that will improve the *Journal*. I may not be able to incorporate all suggestions, but I should be able to give a practical reason as to why I cannot. The constructive criticisms may not alter the policy of the *Journal*, but they will be seriously received and evaluated.

At this point I wish to express my appreciation to those who have made a challenging and time-consuming undertaking considerably more pleasant than was anticipated and easier than it might have been. I offer my thanks to Chairman Hewitt, Secretary-Treasurer Bliven, and the other members of the

Executive Committee for their sympathetic encouragement and their confidence in appointing me editor of the *Journal*. Dean Bliven was new in the position of business manager of the *Journal* just prior to my becoming the editor, but his energetic and effective conduct of that office has considerably eased the burden of my learning a myriad of editorial details.

I offer my appreciation to former-Editor Gibson for his able tutelage and sage advice during the transition of the duties of editor from his office to mine. I am grateful for his patience, and I have greater admiration than I had before the transition for his efficient management of the affairs of the office of the editor of this journal and for his systematic and logical methods of operation. Because of the orderly and effective manner in which he had organized the *Journal* over the past five years, there has been need only for few and minor changes in editorial policy to agree with the new format and design of the *Journal*.

Certainly I must express my appreciation to the literally hundreds of correspondents—authors, committee chairmen, representatives and delegates, book reviewers, and college news collaborators—with whom I have had such excellent cooperation. I do not suggest that I have received 100 per cent support, but considering the press of other duties on many of those I have contacted, I am gratified with the response. It is my earnest hope that such cooperation will endure the length of my term as editor.

As I have carried on the duties of editor of this journal the past four months, I have wondered on several occasions just what Dr. Lyman would have thought of my appointment. I hope he would have been satisfied. I have the guide lines laid down by him and strengthened by Dr. Gibson to direct my efforts, and I pledge to abide by the principles and ideals they have established. Dr. Lyman knows, I am sure, that the editorship has not returned to Presbyterian hands as he might have wanted, but he can rest comfortably knowing that it is once again in the hands of a staunch, midwestern, conservative Republican.

## STANDING COMMITTEE REPORTS

### REPORT OF THE COMMITTEE ON CONSTITUTION AND BYLAWS

The Executive Committee of the Association at its interim meeting held November 10-11, 1960, took official action recommending that the offices of secretary and treasurer be combined and that the holder be known as the executive secretary-treasurer and that he be elected by the Executive Committee for a term of three years. The matter was then referred to the Committee on Constitution and Bylaws for the preparation of those changes necessary in the Constitution and Bylaws in order to implement these recommendations. Following the necessary study of this matter by the Committee on Constitution and Bylaws, the changes required in the Constitution involving Articles VII and VIII were submitted to the chairman of the Executive Committee, who then, under date of February 27, 1961, distributed these proposed changes in the Constitution to the members in accordance with the requirement that any such proposal be submitted at least thirty days prior to the annual meeting. For the benefit of those who may not have these proposed changes before them, the first paragraph of Article VII and all of Article VIII including the proposed changes are as follows:

**Article VII. Officers.** The officers of the Association shall be a president, a vice president, an executive secretary-treasurer, and a chairman of the Executive Committee. The president, vice-president, and the chairman of the Executive Committee shall be elected by ballot and shall hold their respective offices for one year or until their successors are elected and installed. At least two nominees for the office of vice president shall be submitted for balloting. The executive secretary-treasurer shall be elected by the Executive Committee for a term of three years.

#### **Article VIII. Executive Committee.**

The Executive Committee shall consist of a chairman, the president, the vice president, and the immediate past president of the Association, and four accredited delegates, two of whom shall be elected each year from at least four nominees, and who shall hold office for two years. The executive secretary-treasurer shall be a member of the committee *ex officio* without vote.

These proposed changes will be acted upon in executive session later at this meeting. In the event that these amendments to the Constitution are adopted, it will then be necessary to amend certain Articles of the Bylaws in order to make them consistent with the changes in the Constitution. The Committee on Constitution and Bylaws is at this time distributing the proposals for the amendments to the Bylaws which also will be acted upon in executive session following the action taken by the members with respect to the proposed amendments to the Constitution. (See Addendum.)

Linwood F. Tice, Chairman

#### **Addendum Proposals for Amendments to the Bylaws of the AACCP**

The following proposals to amend certain Articles of the Bylaws of the Association are to be voted upon by the members of the Association provided the changes in Articles VII and VIII of the Constitution are approved by the required two-thirds of the active membership. These changes in the Bylaws are needed in order to make them consistent with the Constitution if changed. In each instance, the new wording within a given Article is italicized. (*Editor's Note: The amendments to the Constitution and the*



changes in the Bylaws referred to in this report were all duly passed and accepted by the membership.)

Article III. Right of Withdrawal. Any member college may withdraw from membership in the Association, after the payment of all dues which may be owing the Association, by giving written notification to the *executive secretary-treasurer* of the Association. The reason for withdrawal shall be presented to the Executive Committee at the next regular annual meeting. Consideration of the notice of withdrawal and action thereon shall be taken in executive session.

Article V. *Executive secretary-treasurer*. The *executive secretary-treasurer* shall keep complete and accurate minutes of the meetings of the Association and perform such other duties incident to the conduct of his office as may be required of him as secretary.

He shall also collect all fees and dues owing to the Association and shall be the custodian of the Association's funds, securities, etc., and shall cause to be deposited in

the name of the Association all monies or other valuable effects in such banks, trust companies, or other depositories as shall be approved from time to time by the Executive Committee.

He shall make an annual report to the Association as secretary and, as *treasurer*, submit annually or whenever requested a complete and accurate statement of the financial condition of the Association.

Article XIV. Disbursement of Funds. All disbursements of monies for other than routine expenses shall be made upon the written order of the chairman of the Executive Committee, and an itemized account of all receipts and disbursements shall be presented at each annual meeting of the Association by the *executive secretary-treasurer*. The annual disbursements shall not exceed the total amount of the budget, except on approval of the Executive Committee.

Article XVIII. Order of Business.

6. Report of *executive secretary-treasurer*. (All other items in Article XVIII remain unchanged.)

#### REPORT OF THE COMMITTEE ON CURRICULUM

The Committee on Curriculum (1960-61) has given study to three resolutions referred to it by the Executive Committee and from the annual meeting of the Association in Boulder, Colorado, July, 1960. These are: Resolution No. 4 from the 1960 Committee on Curriculum and dealing with the nature of the Doctor of Pharmacy degree; Resolution No. 9 from the Committee on Problems and Plans (1960) dealing with the feasibility of incorporating the year of required practical experience into the six-year program; and Resolution No. 18 from the address of the 1960 AACP vice president (Burlage) calling for a standardized realistic internship in line with new educational requirements.

The Committee also examined the report from meetings of an AACP ad hoc committee held with Dr. Elmer H. Hill, chief, Public Health Service Traineeship Unit, U.S. Public Health Service, and others regarding public health in the curriculum of pharmacy schools.

Other matters were given study, including the trend for accelerated curricula such as the trimester programs now in operation in member colleges. The need to recognize more fully the talents of superior "gifted" students in pharmacy and advanced placement policies for encouraging the development of such students were also studied.

#### Resolution No. 4

Concern has been expressed by faculties of several schools and by the 1960 Committee on Curriculum on the matter of the Doctor of Pharmacy degree with relation to programs leading to Bachelor's, Master's, Doctor of Science, and Doctor of Philosophy degrees. It was pointed out by the previous (1959-60) Committee on Curriculum that the level of curricula of schools now embarked on six-year programs leading to the Phar.D. degree falls between that of the typical Bachelor's program and the requirements commonly set forth in a Master's degree program. The Phar.D. is not considered a graduate degree, nor at the same level as the Master's. In no way is the Phar.D. degree to be construed as equal to a Doctor of Philosophy degree. The present Phar.D. requirements of the two schools granting this degree as the only undergraduate degree are not graduate in scope. Obviously there is no intention to make them so, and both institutions have emphasized their Doctor of Pharmacy programs as professional degree programs.

The extension of time required for obtaining the professional degree appears also in the above cases to be devoted to increasing the number of credits in professional courses

at the undergraduate level without a significant provision for a proportional increase in general education or science electives.

As was pointed out in the 1959-60 report of this Committee, the trend to "load" the six-year program with an increase in number of required professional courses for all students (particularly during the sixth year) will extend unnecessarily the time required for students intending to enter and complete graduate programs. Admittedly the preparation of undergraduates for retail and/or hospital pharmaceutical practice is a major objective of the pharmacy curriculum. On the other hand, careers in pharmacy which require advanced degrees such as the M.S., Ph.D., etc., are equally attractive to many graduates. Colleges planning six-year programs should also make provision for the adequate preparation of these prospective graduate students.

The Committee, after further study this year, continues, therefore, to believe that in general the recommendations presented in the 1960 report were sound (e.g., that all students in pharmacy complete a curriculum leading to a B.S. degree in pharmacy at the end of five years followed by a sixth year of continued specialization leading to the Doctor of Pharmacy degree for those going into retail and/or hospital practice; and for graduate studies for those desiring to begin programs for graduate degrees).

Furthermore, since it is felt that the level of undergraduate courses for the Doctor of Pharmacy degree should be commensurate with the connotation generally applied to a professional doctor's degree, careful attention should be given particularly to the level of courses given students in the final year for such a degree. It seems reasonable, therefore, to expect that the additional professional work of the sixth year be professionally advanced in nature.

The proposal of requiring a supervised clinical practice arrangement in the sixth year as an integral part of the Doctor of Pharmacy curriculum has merit, but it is quite probable that such a requirement may not be feasible for many of the member colleges. It is recognized that the entire question of the internship or externship program for pharmaceutical practice is in need of more careful study.

If adopted, the proposals set forth in the previous AACP Curriculum Committee report would separate five- and six-year programs into at least two distinct categories based upon specialization and, therefore, would more clearly identify the Doctor of

Pharmacy degree with graduates who are better qualified specifically for retail or hospital pharmaceutical practice. The Committee is mindful, however, that the relative values of B.S. and Phar.D. degrees should be given more study. The probability is great that inflexible six-year curricula heavy with requirements in professional pharmacy courses will significantly extend the time required for students who select pharmacy careers requiring academic graduate degrees.

These and other factors which have recently emerged as a result of five- and six-year curriculum planning necessitate a further study of the professional Phar.D. degree requirements. Therefore, it is recommended that a special study committee larger in scope than the present AACP Curriculum Committee be established at once to determine what requirements should be observed in order to justify a doctoral Phar.D. degree in pharmacy and the differences between the academic level of courses required for this degree and those now required for the B.S. in pharmacy degree.

It is further recommended that this special study committee include among others as its members representatives from the AACP, NABP, American Council on Pharmaceutical Education, American Council on Education, American Society of Hospital Pharmacy, and the American College of Apothecaries.

#### Resolutions No. 9 and 18

These resolutions are related in that Resolution No. 9, from the 1960 Committee on Problems and Plans, calls for a special committee to study and make recommendations regarding the feasibility of incorporating the year of required practical experience into the six-year program in the near future. Resolution No. 18, from the address of the 1960 vice president, asks for the appointment of a similar committee to study a "standardized realistic internship in line with the new educational requirements."

Both resolutions are also compatible with the recommendations previously made in this report which pertain to the establishment of a special study committee of broad scope to review the entire matter of five- and six-year undergraduate pharmacy degrees and their requirements. This committee endorses both resolutions in line with the incorporation of the practical experience requirement in the six-year program and the development of realistic standards for required internship or externship programs. It suggests that district meetings of the boards and colleges continue to include the topic on annual programs and that the National Association of Boards of

Pharmacy, through an appropriate committee, give a high priority to this subject. Although faculties of the colleges must maintain a proper educational perspective for such internship and externship arrangements, they seek the guidance and recommendations of the boards for the relationships that should exist among faculty, student, and preceptor.

#### The Hill Report

Seven representatives of the AACP met on August 12, 1960, with Dr. George F. Archambault, director of the Pharmacy Division of the U.S. Public Health Service and liaison officer to the office of the Surgeon General, and Dr. Elmer H. Hill, chief, Public Health Traineeship Unit, USPHS, on the matter of public health in the curriculum of schools of pharmacy. The following is taken from a report made by Dr. Hill to Dr. Archambault on this meeting:

"The discussions revolved around the curriculum of schools of pharmacy, the ways in which it could be related to the total field of public health practice and to certain specific public health activities.

"It was pointed out that in most of the health-related professions it has been found inadvisable to introduce specialization into

the basic professional education. There seemed to be unanimous acceptance and agreement on this point.

"Discussions revolved around the teaching of basic principles and concepts of public health in the time available for teaching public health, emphasizing the importance of teaching what constitutes the total field rather than certain minutiae of techniques like water treatment and sewage disposal which in reality are only a part of disease control and might better be covered in other courses like bacteriology or microbiology."

Outlined below are certain points relating to basic principles and concepts of preventive medicine and public health practice which might well be considered by pharmacy faculties in bringing public health courses for pharmacists up to date. It is quite evident that the pharmacist's role in specific jobs as public health employee now and in the future requires a thorough understanding of the total field of public health. Instructors of courses for pharmacy students should examine the principal contrast and the analogies between clinical practice and public health practice in order to determine best the relationships of pharmacists to the field of public health practice.

#### Concepts and Basic Principles of Public Health Applications of Preventive Medicine (An Outline)

- I. Relationship of preventive medicine to
  - A. Clinical practice
  - B. Public health practice
- II. Relationship of public health practice to clinical practice
- III. Definition of terms
  - A. Epidemiology (Epidemios)

Modern trend in application of epidemiological method is toward the original Greek concept, *epidemios*, that which arises from or impinges on a population.
  - B. Preventive medicine, its applicability to clinical medicine and to public health practice, and introducing the concept of levels of prevention
    1. Primary prevention of incidence
    2. Secondary prevention or prevention of secondary complications
    3. Tertiary prevention or restorative services designed to overcome remediable defects
  - C. Statistics
    1. Vital statistics
    2. Biostatistics
  - D. Public health. During the discussion it was brought out that public health practice is often considered to be limited to those health hazards in which there might be a direct threat of contagion from one person to another. By use of the illustration of diabetes prevalence and the socio-economic detriment it could be to the community, a broader concept of public health practice was presented, simultaneously illustrating the importance of preventing secondary complications. At the end of this discussion all present seemed to accept the concept that public health practice should concern itself with these broader and deeper dimensions of public health concern.

- IV. Analogy of clinical practice and public health practice
  - A. The patient, an individual
  - B. History and examination
  - C. Diagnosis
  - D. Rx
  - E. Follow-up
- A. The patient, a community
- B. Epidemiology, biostatistics, human ecology, including physical, biologic and socio-economic environment
- C. Determination of public health needs
- D. Activities part of the public health program plan
  - 1. Needs
  - 2. Objectives
  - 3. Activities
  - 4. Evaluation
- E. Evaluation
- V. Skills required of the fully-qualified specialist in public health applications of preventive medicine
  - A. Clinical background—medical school and internship and, if not covered adequately in medical schools, a minimum of one year concentrating on (1) internal medicine (or pediatrics), (2) clinical laboratory, and (3) pathology.
  - B. Examination of population
    - 1. Biostatistics
    - 2. Human ecology
    - 3. Anthropology
    - 4. Sociology and economics
  - C. Relating disease and health hazards to populations—epidemiology
  - D. Therapeutics of public health practice—public administration as it relates to public health practice
    - 1. Interrelationships of law, regulations, policies and procedures
    - 2. Funding and fiscal practices in government
    - 3. Appraisal of public need and public demand
    - 4. Formulation of public policy, etc.

The resident in preventive medicine, whether he expects to function in a predominantly clinical setting or in a public health agency, should be expected to develop to a greater degree of proficiency in the diagnosis of disease and health hazards than is ordinarily expected after completion of medical school and internship, as indicated in item A above. His three years of residency and academic training should help him to develop specialty knowledge and skills in the areas covered by B, C, and D above.

*The Curriculum Committee recommends that pharmacy faculties in charge of public health courses continually consult with specialists in public health practice to develop courses broad in scope in this field; further, that time be devoted during the next Pharmacy Teachers' Seminar to the subject of public health instruction, its current status and future needs.*

#### **The Extension of the Traditional Academic Year Program**

(*Trimester Programs*): The Committee re-examined recommendations made in the 1960 Committee on Curriculum report in light of trends among university administrators to urge the scheduling of all curriculums on an eleven- or twelve-month basis. The "Proposed Guiding Principles" of the AACP relative to this problem (See Enclosure A of Minutes of the Interim Meeting of

the Executive Committee (AACP) December 19, 1960) were also studied.

While the circumstances on university campuses may in some instances make it desirable for physical plants to be used throughout the calendar year, any acceleration of the pharmacy curriculum for this or other purposes can seriously jeopardize the sound educational objectives which have already been established for pharmaceutical education. For these and other reasons the Committee endorses the "Proposed Guiding Principles" relative to the extension of the traditional academic year program and urges that students in pharmacy under any form of trimester program *not* be required to attend three semesters (four quarters) on a continuous basis. Further it agrees with the Executive Committee that administrators contemplating trimester programs for the purpose of accelerating an entire student body



should be made aware of the fact that the number of pharmacy faculty members now considered adequate for a normal academic year is considered inadequate for a longer program.

The Committee recommends that deans of member colleges familiarize their administration with the "Proposed Guiding Principles" of the Executive Committee on the trimester plans and carefully review the advantages and disadvantages of such programs as stated in the 1960 report of the AACP Committee on Curriculum. The Committee is concerned that acceleration of this kind without a commensurate increase in faculty personnel will result in a deceleration of faculty and student performance, thereby lowering standards of pharmaceutical education.

#### **The Superior Student and Advance Placement Policies**

According to a recent report (August, 1960), of the Inter-University Committee on the Superior Student, a definite trend exists throughout higher education to motivate and encourage the talents of superior undergraduate college students. This report reveals that 171 institutions of higher education offer active honors programs for undergraduates and forty-one others are actively exploring the possibility of establishing them. Colleges offering honors work include eighty-seven public and eighty-four private institutions. Ninety-three of these offer full four-year programs, while fifty-seven have programs only in upper-division work. Twenty-one offer programs in both lower and upper division, and fourteen are "all-university" in character.

It is interesting to note in this report that pharmacy honors programs were not mentioned, although programs offered by professional schools such as business, education, engineering, medicine, and music were included. Most of the honors programs were in the colleges of arts and sciences.

The Committee recognizes the great need of providing for the superior student in pharmacy and for honors programs among the member colleges of this Association. Further, it recognizes that superior students should be encouraged and motivated in a manner and degree consistent with their greater ability and potential. The superior student should understand through careful counselling that the curriculum for the degree in pharmacy is a minimum curriculum but that superior students have every reason to exceed minimum requirements. This may be done in part through added curricular endeavors, i.e., beyond degree requirements, advanced placement in courses, admission to honor sections, etc.

While member colleges are in some instances making arrangements for honors work and similar programs for superior students, greater attention should be given by more to this important aspect of higher education. Planning for honors programs is especially appropriate now as colleges of pharmacy move into five-year programs which provide a broader foundation for higher education and more time for this.

Since representatives of the AACP are now collaborating with the American Council on Pharmaceutical Education on the matter of the superior student and advanced placement, it is anticipated that the Committee on Curriculum will in the future be assigned facets of this problem for further cooperative study. The Committee urges the faculties of all member colleges to give careful study to the entire question and consideration to the means whereby they can best fulfill their responsibilities toward superior students. It is necessary to expect that superior students regard the curriculum for a degree in pharmacy and their efforts toward that end as a maximum challenge rather than as a minimum requirement.

Heber W. Youngken, Jr., Chairman

#### **REPORT OF THE COMMITTEE ON EDUCATIONAL POLICIES**

In 1958, this Committee recommended a number of projects for specific areas of information that would be of interest to all schools of pharmacy. In 1959, the Committee discussed the changing functions of the Committee and presented some detailed material on the recommendations for the establishment of a definite minimum of general educational and/or nonprofessional courses

for the five-year program. These data included distribution of credits in the natural divisions as well as in the professional areas of the pharmacy curriculum. In 1960, the Committee report included the results of a survey in the area of faculty work load.

The Committee in 1958 recommended the consideration of a policy in which students with deficiencies in basic sciences considered

prerequisites for professional courses would not be admitted to the first professional year until such deficiencies were corrected. It was, therefore, thought that there might be interest in the courses that the various schools recommend or teach in the first two years of the five-year program. These data do not necessarily include the information which was desired since one school is on the 0-5 year program, twenty-three are on the 1-4 program, forty-three are on the 2-3 program, and two are on the 2-4 program. Only sixty-nine catalogs with the data required were available for the survey.

The data in the attached Table I have been analyzed only for the courses that are most commonly included in the first two years of the curriculum, namely, inorganic and qualitative analysis; quantitative analysis; organic chemistry; mathematics (not pharmaceutical mathematics or arithmetic); zoology and botany or biology; physics; and two non-science courses, English and economics. The latter two courses were the most frequently occurring of the non-science courses.

It will be noted in the table that inorganic chemistry, mathematics, physics, botany and zoology or biology, and English were specific-

ally included in the first two years by almost every school. Organic chemistry and economics were the next most frequently occurring courses specifically included, with quantitative analysis being less frequently mentioned. The absence of these courses in the table does not necessarily indicate that they are not included in the first two years of the curriculum, since they may be included among the group of electives that are specified.

The total number of semester hours required for most schools for the first two years of the five-year program is sixty academic hours. Some schools included military science among the sixty hours required during the first two years. Some schools on the 2-3 program admit students with fewer than sixty hours, as, for instance, fifty-six hours, but it appears that the student is required to enroll in additional courses to compensate for this deficiency in hours.

Although this summary presents data in effect at the beginning of the five-year program for most schools, it should not be considered as an ideal balance and changes may be expected as the five-year program progresses.

Noel E. Foss, Chairman

**TABLE I**  
**Semester Hours of Frequently Occurring Courses in the First Two Years (or Pre-Pharmacy Curriculum) of the Five-Year Program of Sixty-nine Schools of Pharmacy**

Courses	Mode ( )*	Semester Hours	
		Minimum	Maximum
Inorganic chemistry and qualitative analysis.....	10 (30 of 69)**	8	14
Quantitative chemistry .....	4 (10 of 16)	3	8
Organic chemistry .....	8 (28 of 48)	4	12
Mathematics (not pharmacy mathematics or arithmetic).....	6 (39 of 68)	3	10
Zoology .....	4 (23 of 41)	3	10
Botany .....	4 (27 of 39)	3	5
Biology .....	8 (21 of 28)	3	10
Physics .....	8 (46 of 65)	2	10
English .....	6 (40 of 69)	4	14
Economics .....	3 (24 of 47)	2	6

( )\* Number of times mode occurred in total number of times course was mentioned.

\*\* Eight semester hours were listed by twenty-two of the sixty-nine schools reporting the course.



REPORT OF THE  
JOINT COMMITTEE ON  
PHARMACY COLLEGE LIBRARIES

This Committee has encouraged or conducted projects since 1933 designed to enhance school libraries as focal points of pharmaceutical learning. In more recent years it also offers a reliable means to coordinate and to communicate the activities of common interest among those associated with the American Association of Colleges of Pharmacy, the Medical Library Association, and the Special Libraries Association. During the present abbreviated Association year the Committee's activities moved forward in several directions without bringing any notable projects to completion.

The *World List of Pharmacy Periodicals* has come a step nearer formal publication with arrangements through the Medical Library Association for final checking and revision by a co-author, Mrs. Theodora Andrews, on behalf of the Pharmacy Section. The first draft of this comprehensive and unique reference work compiled by Miss Winifred Sewell, now of the National Library of Medicine, was one facet of work by a commission of the International Pharmaceutical Federation that made a procedural study for establishing an international abstracting service for pharmacy. Publication of the *World List of Pharmacy Periodicals* appears certain when the manuscript is in final form; and the Committee wishes to assure that a separate copy will be on the desk of every pharmacy school librarian in the United States.

Plans to bring up to date, on a modified procedural plan, the checklist of "Books, Reference Works and Periodical Literature Recommended for College of Pharmacy Libraries" (*Am. J. Pharm. Educ.*, 19, 480 (1955)) have been brought to final form by the project leader, Mrs. Martha Jane K. Zachert of the Southern College of Pharmacy, since the last report. The Committee expects, with the cooperation of the schools of the Association, that this highly selective list of essential books and journals, for a library nucleus, will be ready for publication by next year.

Neither the comprehensive *World List* nor the list of first-priority journals suggested above for a library nucleus will answer the needs of a research library whose aim is to provide coverage through first-line journals, professional as well as scientific, to as many pharmaceutically significant areas of the world as possible. A new project being fostered by

the Committee attempts to provide one answer—among others possible—to the question: Which first-line journals will best permit an ambitious library to present a reasonably adequate picture of ongoing professional as well as scientific developments in pharmacy, internationally? Miss Dolores Nemec, librarian at the University of Wisconsin School of Pharmacy, has worked out a plan for country-by-country consultation on periodicals of pharmacy that will be initiated with the cooperation and assistance of this Committee.

Many overseas journals, overseas dissertations, and the less important or most expensive publications here in our own country are increasingly difficult for even a research library to buy and shelve—especially when they are infrequently used though useful. The operational success and economic savings represented for midwestern pharmacy schools (and other departments) by the cooperative venture called the Midwest Inter-Library Center may deserve investigation by universities and colleges not yet served by a comparable regional depository and library service center. Possible reciprocal or collaborative aids to academic work among the schools of the "Big Ten" are being studied by Dr. Melvin W. Green, and have included some probing into library needs. This Committee should remain in touch with the project for possible suggestions or applications to pharmacy school libraries nationally. To bring within each region or even within the country all pharmaceutical literature of whatever cost or language that sound scholarly goals would suggest may well ask for more cooperative division of responsibility among libraries than in the past.

Since this Committee became a joint committee in 1953, it has recognized the need for specialized postgraduate instruction in pharmaceutical librarianship for librarians already serving the schools. It has endeavored periodically to gain support for staging a summer seminar for upgrading pharmacy library services, but without an encouraging response from the American Association of Colleges of Pharmacy. Therefore the present Committee suggests that these efforts be directed elsewhere. For example, the regional joint meetings of members of the Medical Library Association and the Special Libraries Association proposed by the Committee last year (*Journal*, p. 52, 1961) might provide an excellent medium for staging a unified institute

or symposium lasting several days, in which pharmacy librarians could learn to discharge their responsibilities most effectively by interchange of experience under the leadership of the best library specialists regionally available.

This would be no substitute for further academic summer sessions including specific pharmaceutical library instruction, which have been undertaken experimentally at Columbia University and at the University of Chicago, with stimulus and appreciation from the Committee. Rather, it would aid school librarians either before or after they are able to get away for a full summer session of postgraduate study. It would also make it far easier to circumvent the financial problems that, through lack of sponsorship, have blocked for too long a short instructional institute in pharmaceutical librarianship, different in kind and degree from the program of papers at a professional meeting. The present Committee would encourage the individual schools to have their library participate in any such short course, and beyond that to provide any faculty members who librarians may feel would be helpful in such a seminar.

Until such time as pharmacy school librarians in general have had the advantage of either a short-course institute or an academic summer session, specifically designed for their needs, the Committee decided it should take a program of self-education into pharmacy school libraries in the form of a manual, which is tentatively titled, *A Program of Readings for Pharmaceutical Librarianship*. With the aid of members of the Committee and in consultation with Mrs. Irene Strieby, librarian-emeritus of the Lilly Research Laboratories, the booklet is being written by Miss Winifred Sewell of the National Library of Medicine, based on her experience in giving a course in pharmacy librarianship at Columbia University (1959). If funds permit, next year should bring to press this guide to a systematic program of home study

among those pharmacy librarians and their assistants who may have somewhat limited pharmaceutical experience but unlimited initiative.

Finally, we wish to recommend that consideration be given to collating all that remains useful, or can readily be made useful, from all previous publications that have appeared under the aegis of the Committee. When suitably edited, the whole should make a worthy pharmaceutical supplement—however modest the format—to the volume on *Medical Library Practice* edited by Janet Doe and Mary Louise Marshall.

Since the work of this Committee began, pharmacy school libraries have changed markedly for the better. Perhaps each librarian or each dean alone can say whether the pharmacy collection has improved as much in quality and in quantity, and in how it is serviced, as have the best departments elsewhere on the campus. How far we have gone, the amount of avocational reading, or even vocational reading, by the average graduate suggests that he may not yet be contracting an ideal "reading habit" in school, the years when he has the best chance of doing so. In a period when it seems both more important and more difficult to "keep up," either as a professional or as a citizen, can it be that some schools are doing even less well than they once were to inculcate an affection, and not merely a respect, for the printed word? Probably we do not know for certain; but in a curriculum as specialized as ours, it will be the pharmacy faculty above all others who can make it more certain. The faculty members of the Committee take the lead in suggesting that perhaps the Association's future activity in this sector—along with continuing improvement of libraries and their librarians—should encourage more systematic faculty efforts to intensify resourceful use of these library facilities and the student's addiction to reading.

Glenn Sonnedecker, Chairman

**REPORT OF THE  
COMMITTEE ON  
RELATIONSHIPS OF BOARDS AND COLLEGES**

The last report of this Committee was presented at the national convention of the American Association of Colleges of Pharmacy in July, 1960. Since the last report all districts have held an annual meeting. Districts 7 and 8 held a joint meeting.

The AACP was represented at all meetings by an officer or Executive Committee member of the Association who is a resident of the district or area. For several years in the past it had been the practice of the AACP to have the Association represented at district meetings by an officer or member of the Executive Committee of the Association who was not a resident of that particular district. The use of resident AACP representatives was adopted this year as an economy measure.

The NABP was represented at the meetings of Districts 1 and 2 by Assistant Secretary F. T. Mahaffey; at the meetings of Districts 3 and 5 by Secretary Costello; and by both Mahaffey and Costello at the meetings of Districts 4, 6, 7 and 8.

A diversity of subjects was discussed in all sessions of the several district meetings. It is understandable that in the separate sessions of the boards and colleges of each district a variety of regional or local problems would be considered. It would seem important in the future, however, to place on the agenda for the joint sessions of the boards and colleges one or more topics which would receive identical programing emphasis in each of the districts. It seems feasible that the consideration of one or more identical topics in the joint sessions of the boards and colleges in all eight districts might offer more comprehensive information relative to the feelings of the districts on subjects of national concern. It is hoped that the resolutions or opinions which might be forwarded to the AACP, NABP, or A.Ph.A. following such discussion would offer better guidance to the parent organization and that a better understanding of national problems would develop at the district level.

Accordingly, following discussions with the officers of both the AACP and the NABP, a joint meeting of the AACP Committee on Relationships of Boards and Colleges and a committee appointed by Mr. Ralph M. Ware, Jr., president of NABP, will be held during the time of this convention. It is intended that from this joint committee meeting will come one or more suggestions of topics which

should be discussed in the joint sessions of boards and colleges at all 1961 (or in some cases, 1962) district meetings.

The following resolutions were passed at the various district meetings and are presented to AACP-NABP for their consideration or information. (Resolutions of local implication are not included.)

**Resolutions**

*District 1*

1. *Resolved*, that in order to keep in closer contact for the purpose of resolving the problems particularly akin to the New England States and to further the aims and purposes of the boards of pharmacy in this District, that a New England Council of Boards of Pharmacy, District 1, be immediately established and that this body shall incorporate within its structure an auxiliary comprising the pharmacy inspectors within the District.

2. *Resolved*, that, in the interest of the public health and safety, necessary legislation be enacted that would permit these preparations to be sold only and directly by licensed pharmacists in licensed pharmacies, because of the disturbing indiscriminate use of exempt narcotic preparations.

3. *Resolved*, that proper and due recognition be given to the profession of pharmacy in all national and state health and welfare programs.

4. *Resolved*, that greater consideration be given to broaden the scope of pharmaceutical research at our colleges and universities by those sponsoring such efforts.

*District 2*

*Whereas*, the open solicitation method of obtaining program material has met with poor response, thereby placing burden upon the officers to seek for program material, and,

*Whereas*, this method does not permit planning for a continuous or integrated series of discussions, and,

*Whereas*, some districts have found that a more effective program can be devised through the use of continuing program committee, therefore,

*Be it resolved*, that the officers of District 2 be instructed to initiate such a standing committee immediately following this meeting; that the said committee consist of three members appointed for three years, two years and one year respectively, with a new mem-

ber to be appointed each year for a term of three years; said committee shall be instructed to announce at each subsequent meeting the proposed theme or themes for the following year, with the limitation that sufficient flexibility be provided to accommodate important topics which may arise between meetings.

2. *Whereas*, it is desirable to provide the Committee on Resolutions with more time for deliberation,

*Be it resolved*, that the Committee on Resolutions be appointed and a chairman selected not later than thirty days prior to each meeting of the Conference, and,

*Be it further resolved*, that the secretary be encouraged to solicit the membership for resolutions so that he can in turn forward them to the members of the Resolutions Committee at least fifteen days prior to the conference.

#### District 3

1. *Resolved*, that the incoming two chairmen appoint a committee on a Pharmacy Manpower Survey, and that a set of uniform questions for the Manpower Survey be compiled and presented at the next meeting for action by all states.

2. *Whereas*, the illicit traffic in CNS drugs continues to be an increasing hazard to public health, and,

*Whereas*, the efforts of all agencies of the government concerned with the control of the distribution of these drugs, both legitimate and illegitimate, are insufficient to curb abuse of these drugs, therefore,

*Be it resolved*, that the FDA explore the usefulness of requiring all suppliers of such drugs at the manufacturing and wholesale level to determine from the board of pharmacy of the respective state the authority of any person placing an order for such drug to be certified by the board to be a person who is authorized by law to have custody of and distribution of such drugs.

3. *Resolved*, that each college of pharmacy in District 3 prepare for a joint report at the meeting in 1961 sample prescriptions with suitable assay procedures for use in the accurate evaluation of various dosage forms as might be used in the practical examinations of the boards of pharmacy.

4. *Whereas*, the matter of permitting differentials of special prices to hospitals, government agencies, and health departments which are lower than those available to other usual pharmacy outlets creates problems for the practicing pharmacies which cannot be

resolved so long as these practices exist and which, if unchanged, threaten to destroy the practice of pharmacy as it has traditionally existed,

*Be it resolved*, that manufacturers adopt price policies which will permit the same price to all, including retail pharmacy.

5. *Whereas*, there are certain drugs that are prescribed and used over a long period of time, and,

*Whereas*, under present law the pharmacist must obtain permission to refill these prescriptions, and,

*Whereas*, the pharmacist has fulfilled all legal, moral and professional obligations required to safeguard the public with respect to dangers of drugs, therefore,

*Be it resolved*, that this group recommend to the NABP, the AACP, and the A.Ph.A. to investigate the possibility of establishing a class of pharmaceuticals known as "R" (refillable) with the prescription legend that they may be refilled at the pharmacist's discretion, unless otherwise indicated by the prescriber.

#### District 4

1. *Whereas*, the Federal Bureau of Narcotics advocates the passage of legislation to provide for minimum mandatory penalties for narcotic violators, and,

*Whereas*, the Congress of the United States has enacted legislation to provide minimum mandatory penalties for narcotic violators, and,

*Whereas*, many state legislatures have enacted laws to provide minimum mandatory penalties for narcotic violators,

*Be it resolved*, that District 4 of the National Association of Boards of Pharmacy and the American Association of Colleges of Pharmacy go on record as favoring the enactment of legislation to provide minimum mandatory penalties for narcotic violators, and,

*Be it further resolved*, that copies of this resolution be forwarded to the American Pharmaceutical Association, the National Association of Boards of Pharmacy, and the National Association of Retail Druggists for action by their membership, and,

*Be it further resolved*, that this resolution be forwarded to the agencies charged with the enforcement of the narcotic laws in the states of Illinois, Indiana, Kentucky, Michigan, Ohio, and Wisconsin.

2. *Whereas*, practice and experience in a pharmacy has always been deemed a necessary prerequisite to licensure as a pharmacist, and,



Whereas, such practice and experience should be obtained during a period of sufficient length to enable maximum exposure to the practice of pharmacy consistent with the academic requirements of the colleges of pharmacy, therefore,

Be it resolved, that the representatives of the boards and colleges of pharmacy of District 4 in meeting assembled go on record as supporting the requirement that twelve months of practice and experience (internship training) in a pharmacy be a prerequisite for entrance to examinations for registration as a pharmacist.

3. Whereas, practice and experience received in a pharmacy is of little value to those who have not received any college training, and,

Whereas, the purpose of training received in a pharmacy is to acquaint future pharmacists with the professional aspects of the material presented in our colleges, therefore,

Be it resolved, that the representatives of the boards and colleges of pharmacy of District 4 go on record as supporting the proposal that the twelve months practice and experience (internship training) required for admission to examinations for registration as a pharmacist be obtained not prior to the completion of the first year of college.

4. Whereas, the representatives of District 4 of the National Association of Boards of Pharmacy and the American Association of Colleges of Pharmacy feel that they would prefer not to obligate themselves to commercial interests, and,

Whereas, the expenditures involved in programming the district meetings may be borne by those attending said district meetings, therefore,

Be it resolved, that the representatives of the boards and colleges of pharmacy of District 4 go on record as instructing the local committees for future meetings to study all offers of sponsorship with extreme care in order to prevent any possibility of exposing the boards or college representatives to undue pressure or obligation.

5. Whereas, it has been found that the time being devoted to meetings of the boards is insufficient to enable complete discussion of the many problems presented at the meetings, and,

Whereas, it is desirable that more time be allowed for meetings by the members of the boards of pharmacy of District 4, therefore,

Be it resolved, that the representatives of the boards and colleges of pharmacy of District 4 go on record as instructing those

planning future meetings to schedule meetings of the boards for two sessions.

District 5

None.

District 6

None.

Districts 7 and 8

1. Whereas, numerous legal problems are encountered by boards of pharmacy and there is need for understanding by their legal counsel,

Be it resolved, that the boards of pharmacy consider inviting their legal counsel to attend district meetings of the AACP and NABP to give the attorneys background for the problems in pharmacy.

2. Whereas, the objectives and problems of pharmacy are not confined to district lines, and,

Whereas, joint meetings of Districts 7 and 8 have been most profitable and productive,

Be it resolved, that careful consideration be given to the desirability and feasibility of scheduling joint meetings of Districts 7 and 8 on alternate years.

3. Whereas, it is generally recognized that inorganic chemical compounds are widely used as therapeutic agents, and,

Whereas, several new inorganic compounds have been recently introduced into pharmacy, and,

Whereas, a number of organic medicinal agents are dependent upon inorganic compounds for their stability and therapeutic action,

Be it resolved, that the member colleges of Districts 7 and 8 maintain in their pharmacy curriculum a substantial course in inorganic pharmaceutical chemistry.

Be it further resolved, that the member boards of Districts 7 and 8 include some questions concerning inorganic pharmaceutical chemistry on each board examination.

4. Resolved, that the delegates of the member institutions of Districts 7 and 8 commend the state boards of the various member states for their encouragement of continuing educational programs for pharmacists, and,

Be it further resolved, that the boards lend added support to the end that pharmacists will be encouraged to participate in the programs offered in their states or neighboring areas.

5. Whereas, the need for implementation of the internship program is evident,



*Be it resolved*, that each of the states comprising Districts 7 and 8 of the AACP-NABP adopt an internship program designed to accomplish the objectives outlined by the AACP curriculum committee and following as closely as possible the principles laid down by that body, and,

*Be it further resolved*, that a Director of Internship Training be appointed by each state board of pharmacy and that he be charged with the supervision of the program, and,

*Be it further resolved*, that in order to insure intrastate and interstate uniformity of the internship program, a committee be appointed in each district or from the joint districts to work out the details of the internship program, and,

*Be it further resolved*, that this program be circulated to the boards and colleges of the districts for constructive criticism and that after their suggestions have been considered and incorporated it be submitted to the districts for adoption.

#### Time and Place of 1961-1962 Meetings

District	Place	Time
1	Boston, Massachusetts.....	October 9-10, 1961
2	Williamsburg, Virginia.....	November 2-4, 1961
3	Mobile, Alabama.....	October 15-17, 1961
4	Columbus, Ohio.....	November 16-18, 1961
5	Fargo, North Dakota.....	October 8-9, 1961
6	Little Rock, Arkansas.....	February 12-13, 1962
7	Seattle, Washington.....	October 22-24, 1961
8	Salt Lake City, Utah.....	October 29-31, 1961

Laurence E. Gale, Chairman

#### REPORT OF THE COMMITTEE ON RESOLUTIONS

The work of the Committee at this Convention was facilitated through previous correspondence and receipt of most of the reports from the officers and committee chairmen. For their cooperation we are grateful. Although editorial changes were made in certain resolutions, the Committee feels that intent and implementation were not changed.

##### I. From the address of the President

1. *Whereas*, the activities of the Association have expanded, and will continue to do so, far beyond the original consideration of administrative problems to the many and varied problems of pharmaceutical education of great concern to all members of the pharmaceutical faculties of our member colleges, and,

*Whereas*, there is urgent need for the Association to represent not only the colleges and schools as institutions but also the faculty members, and,

*Whereas*, there will be a need for more funds to maintain a central office for the full-time secretary-treasurer, therefore,

*Be it resolved*, that a special committee on faculty membership be appointed by the incoming president to study the matter of individual membership in our Association and to present a plan for such membership to be acted upon by the Association at its 1962 meeting. The plan should include with the

membership an annual subscription to the *Journal*, and membership in a teacher's section of the member's choice with the privilege of joining the others at a nominal additional fee.

(The Committee on Resolutions received a similar resolution from Dr. Joseph H. Kern, secretary-treasurer, Conference of Teachers.)

Approved by the Committee on Resolutions and adopted by the Convention.

2. *Be it resolved*, that the special committee on faculty membership (Resolution No. 1) study the feasibility of a sustaining membership (without vote) to be made available to persons who are deeply interested in pharmaceutical education and who are willing to make contributions on an annual basis, for which due recognition would be given.

Approved by the Committee on Resolutions and adopted by the Convention.

3. *Whereas*, there is a need for administrators of schools and colleges of pharmacy to discuss many perplexing problems which should be solved with a united front, and,

*Whereas*, many large and small matters need to be discussed with the aim of presenting them to the membership, as aids to the Executive Committee or the executive secretary-treasurer, therefore,

*Be it resolved*, that the Executive Committee consider the advisability of a conference of administrators of member colleges which

need not be longer than one-half day and which could be conducted by the vice president.

Approved by the Committee on Resolutions and adopted by the Convention.

4. *Whereas*, too many pharmacy graduates exhibit a lack of interest and loyalty to their Alma Maters, and to pharmaceutical organizations, therefore,

*Be it resolved*, that the incoming president appoint a special committee to study this problem and consider possible solutions.

The Committee on Resolutions was sympathetic to this resolution and took note that the A.Ph.A. through its student branches is endeavoring to solve these problems. For this reason and because conditions vary with different colleges the Committee did not approve the resolution but recommended that these problems be handled by the individual colleges and organizations and that they be discussed in the proposed conference of administrators.

Adopted by the Convention.

## II. From the address of the Vice President

5. *Be it resolved*, that the Committee on Graduate Programs modify its annual questionnaire on graduate enrollment data to determine the number of students who are enrolled for graduate study in the same institutions from which they received their undergraduate training.

Approved by the Committee on Resolutions and adopted by the Convention.

6. *Be it resolved*, that the president appoint a special committee on recruitment for graduate study to consider ways and means by which our member colleges and their faculties may become more effective in recruitment of qualified undergraduate students for graduate study and that this committee make a progress report at the 1962 meeting.

Approved by the Committee on Resolutions and adopted by the Convention.

7. *Be it resolved*, that a more thorough study and evaluation of the teachers' seminars be made and that the Executive Committee be directed to appoint a special committee to implement the study.

Approved by the Committee on Resolutions and adopted by the Convention.

8. *Be it resolved*, that the Executive Committee be directed to study the feasibility of the proposal for the Association to be compensated for certification of pharmacy education and graduation records by member colleges on applications for reciprocal licensure and that the Executive Committee

make its report and recommendations at the 1962 meeting.

Approved by the Committee on Resolutions and adopted by the Convention.

9. *Be it resolved*, that the Committee on Curriculum explore the possibility of a preceptor's training manual for use in the internship training program and, if found desirable, that the Committee recommend ways and means to implement it as a joint project of the AACP and the NABP.

Approved by the Committee on Resolutions and adopted by the Convention.

## III. From the Report of the Committee on Curriculum

(The following motion was offered as a substitute motion by the chairman of the Committee on Curriculum after discussion on the original motion as presented in the report of the Committee.)

10. *Be it resolved*, that the Committee on Curriculum continue to study programs leading to the Phar.D. degree with the objective of establishing guide lines for member colleges contemplating a curriculum leading to this professional degree, and,

*Be it further resolved*, that the Committee may add qualified representatives from the American Pharmaceutical Association, National Association of Boards of Pharmacy, American Council on Pharmaceutical Education, American Society of Hospital Pharmacists, and the American College of Apothecaries as consultants in order to benefit from their experiences in professional activities which may be of value in formulating a curriculum leading to the Phar.D. degree.

Approved by the Committee on Resolutions and adopted by the Convention.

## IV. From the report of the Committee on Curriculum and the report of the Committee on Public Health and Civil Defense

11. *Be it resolved*, that pharmacy faculties in charge of public health courses continually consult with specialists in public health practice to develop courses broad in scope in this field.

Approved by the Committee on Resolutions and adopted by the Convention.

12. *Be it resolved*, that time be devoted during the next Pharmacy Teachers' Seminar to the subject of public health instruction, its current status and future needs.

Approved by the Committee on Resolutions with the recommendation that it be referred to the Executive Committee for action. Adopted by the Convention.

**V. From the report of the Committee on Relationships of Boards and Colleges (District 2)**

13. *Be it resolved*, that officers of District 2 be instructed to initiate a standing program committee; that the said committee consist of three members appointed for three years, two years and one year respectively, with a new member to be appointed each year for a term of three years; said committee to be instructed to announce at each subsequent meeting the proposed theme or themes for the following year, with the limitation that sufficient flexibility be provided to accommodate important topics which may arise between meetings.

The Committee on Resolutions thought this an excellent method for improving the programs of the districts and recommend that the Association suggest this plan or a similar plan to all the districts. Adopted by the Convention.

(District 3)

14. *Be it resolved*, that District 3 recommend to the NABP, the AACP and the A.Ph.A. that they investigate the possibility of establishing a class of pharmaceuticals known as "R" (refillable), with the prescription legend, that may be refilled at the pharmacist's discretion, unless otherwise indicated by the prescriber.

The Committee on Resolutions recommended that no stand be taken by the Association but that the proposal be handled by the A.Ph.A. Adopted by the Convention.

**VI. From Joseph H. Kern, secretary-treasurer, Conference of Teachers**

15. *Whereas*, the Conference of Teachers after approximately eight years of organization and effort apparently has not been able to accomplish the objectives for which it was created, and,

*Whereas*, there is evidence that a reevaluation of the Conference of Teachers, its structure, aims and objectives would be conducive to a possible change in its organizational structure in the interest of unity, therefore,

*Be it resolved*, that the American Association of Colleges of Pharmacy take under consideration the feasibility of creating within its framework an organizational structure for the Conference of Teachers.

The Committee on Resolutions recommended that it be referred to the Executive Committee. Adopted by the Convention.

**VII. From the report of the Committee on Public Health and Civil Defense**

16. *Whereas*, the A.Ph.A. had its October, 1960, issue of the *Practical Edition* of the *Journal* devoted entirely to civil defense, and,

*Whereas*, as a part of this issue, a civil defense directory has been presented which lists by state the civil defense directors, emergency hospitals, medical stockpile sites, and pharmacy activities, and,

*Whereas*, this directory has to do mainly with the OCDM, therefore,

*Be it resolved*, that the American Association of Colleges of Pharmacy recommend that the A.Ph.A. compile a list of pharmacists who are vitally interested and who are active or potential leaders in a program for emergency or disaster health services and that this list include not only members of the faculties of the schools of pharmacy, but also practicing pharmacists.

The Committee on Resolutions approved this resolution and recommended that it be referred to the A.Ph.A. Adopted by the Convention.

**VIII. From the report of the Committee on Predictive Tests**

17. *Be it resolved*, that the Association concur with the opinion of the Committee on Predictive Tests that it is beyond the financial scope of the schools of pharmacy at the present time to support the type of program necessary to develop a special predictive test battery for pharmacy students, that we have excellent predictive tests now in use the merit and value of which have been thoroughly tested by examination agencies and confirmed by many of the colleges which have given them. In addition, they are available on a security basis at a nominal cost to the prospective student.

Approved by the Committee on Resolutions and adopted by the Convention.

18. *Be it resolved*, that the Association require that formal admission to schools of pharmacy operating on the 1 plus 4, 2 plus 3, and 2 plus 4 plans be based on satisfactory completion of prepharmacy basis courses in arts and sciences, that such completion be used as one of the main screening devices for admission, and that each member college set the requirements as to the minimum average grade acceptable.

The Committee on Resolutions recommend that it be referred to the Committee on Educational Policies. Adopted by the Convention.

19. *Be it resolved*, that the Association require all candidates for admission to member colleges, including transfers from other colleges, to provide scores on a scholastic aptitude test, an English composition test, and either an intermediate or an advanced mathematics test.

The Committee on Resolutions recommended that it be referred to the Committee on Educational Policies. Adopted by the Convention.

**IX. From the report of the Committee on Recruitment Aids**

20. *Whereas*, Resolution No. 7 passed at the 1960 meeting directed the Committee on Recruitment Aids to prepare a booklet containing pharmaceutical projects for high school science students, and,

*Whereas*, much material has been accumulated, and the Committee is moving towards final agreement as to general format and content, therefore,

*Be it resolved*, that the Committee on Recruitment Aids be provided with a budget for an assembled meeting early in the fall and for some secretarial assistance and postage so as to complete the copy for the high school project book.

The Committee on Resolutions approved the intent of this resolution and recommended that this resolution be referred to the Executive Committee. Adopted by the Convention.

21. *Be it resolved*, that the National Advisory Commission on Careers in Pharmacy of the A.Ph.A. be urged to provide for publication and distribution of the project book during the coming academic year.

The Committee on Resolutions approved this resolution. Adopted by the Convention.

22. *Be it resolved*, that member colleges be urged to establish contact with the appropriate pharmaceutical associations in their geographic areas to encourage greater participation by pharmacists in local, regional, and state science fairs; also, that it should be made clear to teachers, pupils, and the public that the pharmacist is interested as a sponsor, as a source of supplies, and even sometimes as a scientific advisor.

The Committee on Resolutions approved this resolution. Adopted by the Convention.

**X. From the report of the Committee on Continuation Studies**

23. *Whereas*, the 1960 Committee on Committees defined the duties of the Committee on Continuation Studies as "the examination of continuation study programs in other areas, as well as means for financing and recommendations on the nature of such programs in pharmacy," and,

*Whereas*, the Committee on Continuation Studies wishes to make the work of future committees more meaningful, therefore,

*Be it resolved*, that the scope of the Committee be enlarged to include detailed studies

of the problems involved in providing continuing education for the pharmacy practitioner.

Approved by the Committee on Resolutions and adopted by the Convention.

**XI. From Dean Kenneth L. Waters**

24. *Whereas*, many of our state universities are now recognizing accomplishments of superior students and are giving them credit for courses on the basis of their scores on national examinations, therefore,

*Be it resolved*, that the American Association of Colleges of Pharmacy encourage this policy and not hamper the superior student by adhering to the full five-year provision (Article IV, 3f, *Accreditation Manual*, ACPE, Sixth Edition).

The Committee on Resolutions recommended that this resolution be referred to the Committee on Educational Policies. Adopted by the Convention.

**XII. From Dean Linwood F. Tice**

25. *Be it resolved*, that the Association reestablish its traditional pattern of holding its annual meeting in conjunction with the Convention of the A.Ph.A. and related organizations, and that this change be instituted as soon as possible taking into consideration any commitments already made by the Executive Committee which cannot be readily altered.

The Committee on Resolutions recommended that this resolution be voted on by the Association under new business without action by the Committee. Adopted by the Convention.

(*Editor's Note: The motion was voted on as required. The motion was defeated by a vote of 31-32.*)

**XIII. From the Committee on Resolutions**

26. *Be it resolved*, that the American Association of Colleges of Pharmacy hereby extend its full cooperation to the American Foundation for Pharmaceutical Education in the current evaluation of its programs to the end that those current programs found worthy may be continued and that such new programs deemed essential to the fulfillment of the objectives of pharmaceutical education in the immediate years ahead may be recognized and considered for support.

Approved by the Committee on Resolutions and adopted by the Convention.

27. *Be it resolved*, that the American Association of Colleges of Pharmacy again express its sincere appreciation to the American Foundation for Pharmaceutical Education for



its continued dedication, through its many programs, to the objectives of our Association and, thus, to pharmaceutical education, and,

*Be it further resolved*, that our special thanks be extended to the Foundation for its acceptance, beginning August 1, 1961, of full financial support of the *American Journal of Pharmaceutical Education* which, in turn, has enabled the Association to achieve one of its major objectives, namely, the establishment of a full-time administrative office, and,

*Be it further resolved*, that special recognition be given to President Charles Doerr and Secretary W. Paul Briggs for their interest and counsel during the past year in behalf of pharmaceutical education.

Approved by the Committee on Resolutions and adopted by the Convention.

28. *Be it resolved*, that the American Association of Colleges of Pharmacy extend its appreciation and gratitude to Dean Putnam F. Jones for his splendid and informative address on trimester programs.

Approved by the Committee on Resolutions with the request that the secretary address this expression to Dean Jones. Adopted by the Convention.

29. *Be it resolved*, that the American Association of Colleges of Pharmacy express its appreciation to the local A.Ph.A. committees and all others who have so efficiently handled the arrangements for our annual meeting.

Approved by the Committee on Resolutions and adopted by the Convention.

Perry A. Foote, Chairman  
(Submitted by Charles W. Bliven,  
secretary, AACP)

#### **Resolutions from the Executive Committee**

The following resolutions, approved by the Executive Committee, were presented by Chairman Hewitt.

1. *Whereas*, pharmaceutical education is based on the sound premise that pharmacy's services to society require the extensive preliminary education that can only be obtained in at least five academic years of collegiate work, and,

*Whereas*, special reviews or cram "courses," conducted specifically in preparation for state board examinations in no

way qualify the applicant or contribute to his capacity to render the complex and dynamic services, especially those of an intellectual nature, that are the serious responsibility of the pharmacist, and,

*Whereas*, the collegiate education of pharmacists on one hand and cram "courses" on the other are totally incompatible, the first obviating the need for the second, therefore,

*Be it resolved*, that special reviews or cram "courses" in the preparation of students for state board examinations are not consistent with Article I, Section II, of the Bylaws of the American Association of Colleges of Pharmacy, and,

*Be it further resolved*, that member colleges and their faculties refrain from participation in such special reviews or cram "courses" in the interest of public health, the pharmacy profession, and pharmaceutical education.

Adopted by the Convention.

2. In full recognition of the probable future need for the greater utilization of the classrooms and laboratories of our schools and colleges of pharmacy to satisfy the demand of students seeking pharmaceutical education, and to provide for the manpower requirements of the profession, the following guiding principles are proposed relative to the extension of the traditional academic year (two-semester or three-quarter):

a. That such programs be established according to sound educational objectives and not primarily for the purpose of accelerating the program of an entire student body.

b. That under such programs students should not be required to attend continuously three semesters or four quarters.

c. That the faculty be sufficient in number to conduct properly the year-round program adopted. The number of faculty members considered adequate for a normal academic year (e.g., two-semester or three-quarter) is considered inadequate for a longer program (e.g., trimester or four-quarter).

Adopted by the Convention.



## CONTINUING COMMITTEE REPORTS

### REPORT OF THE COMMITTEE ON AUDIO-VISUAL EDUCATION

The Committee on Audio-Visual Education appointed by President Burlage has had a short period of orientation, and although we have not accomplished the objectives of the previous committees, we are pleased to state that we have carried out, as best we could, the wishes of the previous committee and the mandate of Resolution No. 6 of the 1960 meeting by installing for the first time at this convention an Audio-Visual Exhibit at Booth 55.

We have assembled material, including slides, film strips, pictures, film, key-sort cards, and other visual-aid material, in addition to a bibliography of recent literature dealing with teaching machines and programmed learning. These latter seem to have captured the imagination of a large segment of educators inside and outside of our professional field, as well as industrial personnel interested in instructional methods.

We have collected a small library on audio-visual techniques so that you may browse through a representative amount of the best literature on this subject.

Attached is a current bibliography of audio-visual literature which we desire to incorporate as part of this report. We shall present a copy of this bibliography to each visitor to Booth 55.

#### Future Plans and Objectives

1. Reorganization of coordinators in all of the colleges of pharmacy.
2. Compilation and publication of a current list of desirable new films in each issue of our *Journal*.
3. Catalogue and arrange folders descriptive of equipment for the use of the colleges to be circulated upon request.
4. Double the exhibit space at the 1962 convention, and invite some of the leading manufacturers of teaching machines to exhibit and explain the equipment.
5. Continue to assemble current bibliographic material on audio-visual techniques for the use of those who request it.

#### Recommendations

1. That the Committee be continued for another year.
2. That the Executive Committee of the AACP appropriate \$50 to the Committee on Audio-Visual Education for mailing expenses and \$50 for exhibit expenses at the 1962 convention.

E. J. Ireland, Chairman

#### Partial Bibliography on Teaching Machines, TV, Etc.

(Compiled by the 1960 Audio-Visual Education Committee.)

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2. A. A. Lumsdaine and Robert Glaser, Editors, *Teaching Machines and Programmed Learning*. Department of Audio-Visual Instruction, National Education Association, Washington, D.C., 1960.
3. Lester B. Sands, *Audio-Visual Procedures in Teaching*. Ronald Press, New York, 1956.
4. Charles F. Schuller, *The School Administrator and His Audio-Visual Program*. Department of Audio-Visual Instruction, National Education Association, Washington, D.C., 1954.
5. W. A. Wattich and Charles F. Schuller, *Audio-Visual Materials, Their Nature and Use*. Harper Brothers, New York, 1953.
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7. *ALA Bulletin*, 55:117-148, February, 1961, *New Educational Trends and Media—Their Impact on School Libraries*, includes the following articles deal-

\*Reference No. 6 to the end compiled by Carolyn Guss, Indiana University, March 12, 1961.

- ing with various aspects of the theme:  
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 Finn, James D., "Educational Technology—a New Force"  
 Ross, Louise F., "Public Librarians Must Face the Challenge"  
 Rufsvold, Margaret I., "Library Education and the Newer Media"  
 Stone, C. Walter, "The Crisis in Education—a Mandate for Librarians"  
 Trump, J. Lloyd, "Images of the Future for School Libraries"  
 Whitemack, Carolyn, "Introduction."
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  9. Bera, Henry A., *New Directions in Audio-Visual Communications*. Bulletin of the School of Education, Indiana University, Bloomington, Vol. 36, No. 6, November, 1960, 83 pp.
  10. Bobren, Howard M., and Siegel, Sheldon L., "Student Attitudes Towards Closed-Circuit Instructional Television," *Audio-Visual Communication Review*, 8:124-128, May-June, 1960.
  11. Carpenter, C. R., *Boundaries of Learning Theories and Mediators of Learning*, A Working Paper for National Conference on Teacher Education and New Media. 15 pp., mimeo.
  12. Caswell, Nollis, L., "A Curriculum Viewpoint on Educational Television," *Educational Leadership*, 15:107-115, November, 1957.
  13. Cumming, William K., *This is Educational Television*. Edwards Brothers, Ann Arbor, Michigan, 1954.
  14. *Design for ETV, Planning for Schools with Television*. Educational Facilities Laboratories, New York, 1960.
  15. *Educational Leadership*, 18:266-366, February, 1961. The theme "Teaching Methods and Devices" contains the following articles:  
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 Frazier, Alexander, "More Opportunity for Learning—or Less?"  
 Klausmeier, Herbert J., and Lambert, Philip, "Teaching Machines and the Learning Process"  
 Kvaracous, William C., "Future Classroom—An Educational Automat?"  
 Lumsdaine, A. A., "Teaching Machines and Auto-Instructional Programs"
  - Shane, Milton L., and Shane, Helen Lacy, "Laboratories for Foreign Language Teaching"
  16. Ford Foundation, *Teaching by Television*. The Foundation, New York, 1959.
  17. Frazier, Alexander, Editor, *Learning More About Learning*. Association for Supervision and Curriculum Development, a Department of the National Education Association, Washington 6, D.C., 1959.
  18. Fritz, John, "Educational Technology—Boom or Bane?" *The School Review*, 6:294-307.
  19. Greenmeyer, P. A., and others, "Television as a Teaching Medium." Reprinted from *College and University Business*, April, 1957.
  20. Guba, Egon, G., "Evaluation and the Airborne Television Project," *Educational Research Bulletin*, The Ohio State University, October 12, 1960, pp. 179-196.
  21. Hill, Wilhemina, "Materials and Resources," in *Social Studies in the Elementary School Program*, pp. 77-91, U.S. Office of Education, Department of Health, Education, and Welfare, Washington, D.C., 1960.
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  23. Huebener, Theodore, *Audio-Visual Techniques in Teaching Foreign Languages*. New York University Press, 1960.
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 Hilgard, Ernest R., "Learning Theory and Its Applications"  
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 Kanner, J. H., "The Development and Role of Teaching Aids in the Armed Forces"  
 Lumsdaine, A. A., "The Development of Teaching Machines and Programmed Self-Instruction"  
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 Schramm, Wilbur, "Television in the Life of the Child—Implications for the School"  
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#### REPORT OF THE COMMITTEE ON CONTINUATION STUDIES

The Committee examined six areas pertaining to continuation studies which it felt merited consideration. These included: (1) a realistic appraisal of the duties of the Committee, (2) the number and quality of programs offered by member colleges, (3) the paucity of detailed information available to member colleges, (4) continuation studies in other professional areas, (5) available means of financing programs, and (6) a method by which member colleges can obtain optimum benefits from the experiences of others.

#### Duties

The 1960 Committee on Committees defined the duties of the Committee on Con-

tinuation Studies as being "the examination of continuation study programs in other areas, as well as means for financing and recommendations on the nature of such programs in pharmacy."

During the course of its work this year the Committee questioned whether its role could be a really meaningful one in view of its comparatively limited duties. The problem of reaching the pharmacy practitioner, the means of improving motivation, the need for suitable methods of evaluating the effectiveness of various seminar techniques, and the role of pharmaceutical societies, voluntary health organizations, pharmaceutical firms, and pharmacy colleges in continuing education for

the pharmacist are but a few examples of the many genuinely important areas in need of study. To enable future committees to make greater contributions in the area of continuing education, it is recommended that the scope of the Committee be enlarged to include detailed studies of the problems involved in providing continuing education for the pharmacy practitioner.

#### **Programs**

Information furnished the American Council on Pharmaceutical Education through annual progress reports submitted by the colleges for the academic year 1959-60, made available to the Committee through the cooperation of Dr. Melvin W. Green, indicated that approximately two-thirds of the colleges held one or more seminars during the year. Twenty-three colleges reported holding a single seminar during the year, and two colleges held a single seminar but held the same seminar more than once. Sixteen colleges reported holding two seminars, one college held three, five colleges held four seminars, one college held five seminars, one college held seven seminars, and one held over ten seminars during the year. Present estimates for the academic year 1960-61 do not indicate any appreciable change in these statistics. It is a rather sad commentary to note that approximately one-third of the member colleges do not offer any formal program of continuation study.

The quality of the programs offered varied considerably, ranging from highly meritorious to dismal, spotty, and unrealistic offerings. Some showed evidence of careful planning and a sincere effort to fulfill the needs of the practitioner. Others, unfortunately, afforded little of educational value to those in attendance. Obviously the techniques of successful program planning are much in need of study.

#### **Additional Information**

The Committee has been gratified to note the increased cooperation of member colleges in exchanging copies of seminar programs. However, there is great need for additional detailed information concerning what is going on in continuing education. Our report last year indicated the availability of several studies, but it should be noted that these are kaleidoscopic in nature. The American Council on Pharmaceutical Education through its Director of Educational Relations, Dr. Melvin W. Green, has exhibited considerable interest in obtaining more comprehensive information. Accordingly, it is recommended that the 1961-62 Committee on Continuation Studies prepare a comprehensive fact-finding question-

naire to be incorporated as part of the annual progress report to The American Council on Pharmaceutical Education and that the results of this joint effort be reported at the 1962 meeting of the American Association of Colleges of Pharmacy. It is of interest to note that the Association of American Medical Colleges' Committee on Continuation Education maintains a close liaison with the Council on Medical Education. It would appear desirable for this Association's Committee to pursue a similar course.

#### **Other Professional Areas**

The American Association of Dental Schools does not presently have a Committee on Continuing Education but has discussed at some length the need for the promotion of continuation education. Their association through its secretary, Dr. Reginald Sullens, is desirous of obtaining additional information as to the character and function of our AACP Committee.

The Association of American Medical Colleges has had a standing Committee on Continuation Education for many years. The activities of the Committee are concerned primarily with the problems of postgraduate education for the practicing physician. The annual report of this Committee, graciously provided by Dr. Lee Powers, associate director of the AAMC, indicates little concern for either the number or the quality of the programs for obvious reasons: there is maximum participation by member colleges, and almost every program fulfills specific needs of the practicing physician. Their chief difficulty, other than financing programs, is the lack of coordination of efforts by various groups. There is strong sentiment for all efforts in continuation education to be coordinated on a regional basis. One cannot help being impressed with the adequacy of the seminars in fulfilling the needs of the practicing physician. However, the problem of reaching the physician in practice and the means of improving motivation are of serious concern; it is apparent that we are not unique in this respect.

Veterinary and nursing colleges do not appear to have comparable committees, although they offer a variety of continuing education programs. Limitation of time precluded a more detailed study of these professional areas.

#### **Financing Programs**

Relatively few colleges have obtained grants to assist them in their continuing education programs. It has been a source of amazement to the Committee to learn that only a small



number of colleges have even attempted to obtain funds to finance continuation studies. Our report last year recommended a source of reference to obtain funds (*American Foundations and Their Fields* by W. S. Rich); however, the book is now out of print. The Committee is pleased to recommend a new publication which lists sources of potential funds, not only for financing continuation studies, but also for innumerable other educational projects as well as research programs. It is strongly urged that every member college obtain a copy of *The Foundation Directory* prepared by the Foundation Library Center and published for the Center by the Russell Sage Foundation, 505 Park Avenue, New York City (list price \$10.00).

#### A Method for Optimum Benefits

The necessity for those individuals who are actively engaged in the work of continuing education to meet together and discuss the innumerable problems confronting those responsible for arranging continuation studies has prompted the Committee to go one step further than our report recommended last year. If we are to progress in this area and offer programs to fulfill the needs of the practitioner, it is vital that a permanent sec-

tion for personnel actively engaged in continuing education be established. The creation of such a section would provide member colleges with information which would enable them to plan their programs more intelligently and perhaps offer practical solutions to the many problems of continuing education programming. The Committee contacted every member college to ascertain their interest in the establishment of such a section. We are pleased to report an overwhelming positive response and, accordingly, the Committee has scheduled an organizational meeting for 4:00 P.M. Wednesday, April 26, 1961. The Committee strongly urges all those interested to be in attendance.

The area of continuing education is becoming increasingly important, and member colleges are urged to make every effort to improve their programs and devise more effective means of reaching the practitioner. Although there has been a considerable increase in the number of formal continuation study program offerings over the past five years, statistics made available to the Committee indicate we are reaching only about 10 per cent of the practicing pharmacists in the nation.

Arthur G. Zupko, Chairman

#### REPORT OF THE COMMITTEE ON FUTURE ENROLLMENT PROBLEMS

The Committee on Future Enrollment Problems was charged with one specific task in Resolution No. 1, passed at the convention last August in Washington, D.C.

##### Resolution No. 1.

*Whereas*, there exists a need for more statistical information about our schools of pharmacy and our personnel, including (1) the student capacity of the undergraduate and graduate divisions and the number of graduates which can be provided at each level with our existing and with our anticipated facilities of five years hence, and (2) the cost per year to educate a pharmacist, therefore,

*Be it resolved*, that the Special Committee on Manpower be continued for the purpose of gathering this and such other statistical information on manpower as may be deemed essential.

A questionnaire was sent to each member school and college asking for the information indicated in the resolution. The questionnaire was not an easy one to formulate, nor was it an easy one to execute. The Committee wishes to express its appreciation to the deans and others in all the schools and col-

leges who attempted with patience and with forbearance to answer the questions. The Committee is also conscious of the fact that its efforts to keep the questionnaire as brief as possible in order to minimize the time required to execute it probably had the opposite effect in some instances. Although questionnaires were returned by most of the schools, some were too incomplete to include in the final statistics. The results are summarized numerically in Table I, and on a percentage basis in Table II.

Based on the fifty-six complete reports, an increase in plant capacity is contemplated by the schools and colleges of pharmacy across the country sufficient to raise possible enrollments from 14,723 (1961) to 17,118 (16 per cent increase) in 1966 and to 18,972 (29 per cent increase) in 1971. There would also be room to expand graduate enrollments at the master's level from 616 in 1961 to 903 (47 per cent increase) five years hence, and to 1,131 (84 per cent increase) ten years hence, and at the doctorate level from 711 in 1961 to 1,078 (52 per cent increase) in 1966 and to 1,433 (102 per cent increase) by 1971.



Restricted to current teaching staffs, with replacements but no additional teachers, enrollments would be limited, at the undergraduate level (three upper classes) to 13,420 (1961), 13,717 (2 per cent increase) by 1966, and 13,941 (4 per cent increase) by 1971. At the master's level the enrollment would be restricted to 654 (1961), to 661 (1 per cent increase) five years hence, and 736 (13 per cent increase) ten years hence. At the doctorate level the figures indicate 470 (1961), 541 (15 per cent increase) by 1966, and 562 (20 per cent increase) by 1971.

In terms of the number of graduates, the figures, limited by restrictions to current teaching staffs (with replacements only, no additions) were reported to be 4,508 (1961), 5,148 (14 per cent increase) for 1966 and 5,301 (18 per cent increase) for 1971 for baccalaureate degrees; 292 (1961), 398 (37 per cent increase) for 1966, and 412 (41 per cent increase) for 1971 for the master's degree; and 173 (1961), 280 (62 per cent increase) for 1966, 307 (78 per cent increase) for 1971 for the doctorate degree.

In terms of the number of graduates with no restrictions on faculty size the figures were 6,625 in 1961, 7,973 (20 per cent increase) by 1966, and 8,723 (33 per cent increase) by 1971 for baccalaureate degrees; 392 in 1961, 587 (50 per cent increase) by 1966, and 712 (82 per cent increase) by 1971 for the master's degree; and 230 in 1961, 478 (108 per cent increase) by 1966, and 608 (164 per cent increase) by 1971 for the doctorate degree.

The need for teachers was indicated in terms of replacements—thirty-seven (1961), eighty-four by 1966, and 121 by 1971; and additional faculty positions 126 (1961), 238 by 1966, and 295 by 1971. Total faculty needed, for both replacements and new positions, would be 163 (1961), 322 (1966), and 416 (1971).

The cost per year of educating an undergraduate pharmacy student was by far the most controversial question. It was recognized that there is no uniformity among institutions as to the terminology or the method of calculation of this figure. It was explained, however, that no attempt at comparisons would be made, and that all that was wanted

was an opinion poll, an expression of what each institution felt the cost to be. The replies ranged from \$400 minimum to \$3,000 maximum, with a median of \$1,033 and a mean of \$1,439. A frequency distribution of the replies shows:

8 per cent reported under \$500  
40 per cent over 500 but under 1000  
34 per cent over 1000 but under 1500  
10 per cent over 1500 but under 2000  
4 per cent over 2000 but under 2500 and  
4 per cent over 2500 but not over 3000

100

Only two schools in this group reported contemplating a trimester program.

Meanwhile, in the short association year since the meeting last July, little has been accomplished regarding the two basic questions mentioned in the last two reports of this Committee:

1. What, really, is the current and probable future need for graduates in pharmacy in the United States?
2. What is the prevailing attitude concerning pharmacy as a career among high school students?

Preliminary inquiries into the cost of such studies made at the professional level vary widely and run to unbelievably fantastic figures. In answer to an inquiry during the discussion which followed the report of this Committee at the convention in Boulder, Colorado, last July, it was suggested that the A.Ph.A. Manpower Commission might be interested in the first of the two basic questions stated above and might be of some help in initiating a thorough study. You may note from Secretary Bliven's report that this suggestion is being followed up by the secretary and the Executive Committee. It is further suggested by this Committee that, now that A.Ph.A. is actively engaged in careers activities and recruitment for the profession, the A.Ph.A. could quite possibly be vitally interested in the second of the two fundamental questions listed above and may be of some help in this study also.

Stephen Wilson, Chairman

# Continuing Committee Reports

**TABLE I**

**Student Capacity, Number of Graduates, and Per Student Cost**

	1961	1966 (Estimated)	1971 (Estimated)
1. Maximum capacity of physical plant (See note #1)			
Undergraduate (three upper classes).....	14,723	17,118	18,972
Graduate			
Master's level .....	616	903	1,131
Doctorate level .....	711	1,078	1,433
2. Capacity with current staff (See note #2)			
Undergraduate (three upper classes).....	13,420	13,717	13,941
Graduate			
Master's level .....	654	661	736
Doctorate level .....	470	541	562
3. Number of graduates with current staff (See note #3)			
Baccalaureate degree .....	4,508	5,148	5,301
Master's degree .....	292	398	412
Doctorate degree .....	173	280	307
4. Faculty replacements needed (See note #4).....	37	84	121
5. Number of graduates with unlimited staff (See note #5)			
Baccalaureate degree .....	6,625	7,973	8,723
Master's degree .....	392	587	712
Doctorate degree .....	230	478	608
6. Increases in faculty needed (See note #6).....	126	238	295
7. What is the per capita cost for a year to the institution for educating an undergraduate pharmacy student? (See note #7)			
8. Do any of the figures you have given above reflect the current or proposed use of a trimester program?   Yes 2   No 53			

**TABLE II**

**Student Capacity, Number of Graduates, and Per Student Cost**

	1961	1966 (Estimated)	1971 (Estimated)
		Per cent of Increase	
1. Maximum capacity of physical plant (See note #1)			
Undergraduate (three upper classes).....	14,723	16%	29%
Graduate			
Master's level .....	616	47%	84%
Doctorate level .....	711	52%	102%
2. Capacity with current staff (See note #2)			
Undergraduate (three upper classes).....	13,420	2%	4%
Graduate			
Master's level .....	654	1%	13%
Doctorate level .....	470	15%	20%
3. Number of graduates with current staff (See note #3)			
Baccalaureate degree .....	4,508	14%	18%
Master's degree .....	292	37%	41%
Doctorate degree .....	173	62%	78%
4. Faculty replacements needed (See note #4)			
5. Number of graduates with unlimited staff (See note #5)			
Baccalaureate degree .....	6,625	20%	33%
Master's degree .....	392	50%	82%
Doctorate degree .....	230	108%	164%
6. Increases in faculty needed (See note #6)			
7. What is the per capita cost for a year to the institution for educating an undergraduate pharmacy student? (See note #7)			
8. Do any of the figures you have given above reflect the current or proposed use of a trimester program?			

**Notes**

1. Not the enrollment, but what the enrollment would be if all the seats were filled. These figures should reflect any anticipated increase in physical facilities.
2. The capacity of the physical plant as limited in use if restricted to present staff. These figures should reflect increase in physical plant as far as possible but restricted by the limitation of no increase in faculty. Assume replacements, but no increases, in faculty.
3. These figures should reflect the curtailed use of new facilities by the lack of any increases in faculty. Assume replacements, but no additions, to faculty.
4. The number of new faculty members needed as replacements (not additions) to achieve the figures given in three.
5. These figures should reflect full use of physical plant with no limitations of staff. Assume an unlimited supply of teachers.
6. The number of new faculty members needed as additions (not replacements) to the staff to achieve the figures given in five.
7. Not the cost to the student, but to the institution. This is designated by various names, such as per capita cost and per capita instructional cost. It is also calculated on different bases. Some schools use student-credit-hours as the base, some use a head count enrollment figure, some use the equated full-time student enrollment, etc. In this questionnaire we are not concerned with complete uniformity. The figures you give will not be used for comparison purposes. What we would like to have is merely an expression of what each institution uses as its cost for a year for educating an undergraduate pharmacy student.

**REPORT OF THE COMMITTEE  
ON GRADUATE PROGRAMS**

The Committee on Graduate Programs does not have a report to present this year.

Activity has been limited to the publication of graduate enrollment data which were distributed widely to all colleges of pharmacy in the United States and Canada and to forty other additional interested agencies. For the next edition, the Committee should consider the suggestion that all or a selected part of this annual report should be duplicated on thinner paper for foreign distribution when so requested.

**REPORT OF THE  
JOINT COMMITTEE ON  
HOSPITAL PHARMACY**

The Committee on Hospital Pharmacy Education met with the members of the corresponding committee of the American Society of Hospital Pharmacists at the Hotel Sherman in Chicago on April 26, 1961. The administrative regulations approved by the Executive Committee of the American Association of Colleges of Pharmacy were distributed and approved. Since the American Society of Hospital Pharmacists has approved these regulations, this marked the formal establishment of the Joint Committee. The Committee elected Dean Rowe of the University of Michigan as chairman and Mr. Clifton Latio-lais of The Ohio State University as secretary.

It was agreed that the important matters

relating to hospital pharmacy education should be discussed at a meeting which would provide more time for consideration of the serious matters involved. Therefore, the Committee elected to meet in Ann Arbor, Michigan, at the University of Michigan on July 7, 1961, for a full day. It was further agreed that the agenda would include:

1. A discussion of the objectives and goals of hospital pharmacy education and,
2. A review of the educational picture in hospital pharmacy, including internships and graduate programs, to determine how these programs might achieve the objectives under one.

Warren E. Weaver, Chairman

## REPORT OF THE COMMITTEE ON PREDICTIVE TESTS

Three years ago the Committee on Predictive Tests outlined a proposal for the development of pharmacy predictive tests in the member colleges. The tests were to be administered to students in the first year of college in April, 1959, followed by two more first-year group studies. Correlation of all data was to be made available to the member colleges in 1961. To implement the program it was estimated that \$75,000 would be needed: \$40,000 for an educational testing agency; \$23,000 for committee expenses; and \$12,000 for consultation. Although considerable effort was made to find financial backing for the proposal, it was not forthcoming.

In 1959 the Executive Committee requested this group to reconsider its objectives. The Committee canvassed the member colleges and requested certain data as to (1) whether a predictive test was administered to incoming students, and (2) some of the experiences that the colleges had had with the predictive tests currently being used. Fifty-four of the seventy-six colleges replied to the questionnaire, and these replies were summarized at the Boulder, Colorado, meeting. The report carefully reviewed the pro and con of a national test battery and made recommendations concerning further proceedings. The Committee was of the opinion that there was much less enthusiasm for a better predictive test last year than in previous years. Perhaps this was due to the unknown effect that the five-year program would have on enrollment.

Resolution Number 14, which was passed at that meeting, read as follows:

*Be it resolved* that the Association endorse the proposal of the Committee on Predictive Tests to carry out a more specific study of testing programs in current use in an attempt to determine whether the expense of developing a special battery of tests can be avoided.

Early in the Association year your chairman arranged a conference with one member of our Committee in an adjoining state, with Dean Waters, a member of the Executive Committee, and with the guidance director of the University of Georgia. He also conferred with Dean Foote of the University of Florida, a former member of the Executive Committee. In addition, three conferences were held with the regional director of one of the well-known examining agencies and with several executives of this organization in their home office. It was unfortunate that geographical

barriers and a small budget prohibited the other committee members from meetings with us. Council, however, was sought and received by mail.

A careful study of the completed questionnaires received by the previous Committee on Predictive Tests showed that twenty-two of the member colleges failed to respond. We decided, therefore, to request permission of the Executive Committee to canvass these non-reporting colleges again in the hope that we could have a more complete picture of the testing programs currently in use. Permission was granted and fourteen of the twenty-two colleges responded, so that we now have data on the testing programs in 90 per cent of the member colleges.

In answer to the question "What evidence do you have of the effectiveness, especially the reliability and validity, of the results obtained by the tests named?" more than half the colleges indicated that they did have evidence of the merits of their testing programs. Following are some of the typical answers received:

"Found very good correlation between predictive college success and achievement. For example, no predictive failure has finished the first year, and the majority of students fall into predicted categories."

"The use of CEEB tests seems to have eliminated the poorer students."

"Much variability, but generally the pattern showed agreement with national data."

"Research by publishers supplemented by research conducted by the educational testing department of our school."

"The experience over the years has established its value."

"There is an excellent correlation between coop reading and student's actual grades in college. Also better ACE scores and grades."

"... low percentile usually forecast poor performance."

"Generally valid within plus or minus 0.5 grade points."

"Twenty-five to 30 per cent better than chance in scholarship ability. Correlation coefficient plus 0.65."



"... qualitative scatter diagram of the sum of the test scores against first year college averages shows a definite correlation."

"All tests have been thoroughly validated and their relationship determined by the publishers, educational testing service, and others."

"It has been proven over a period of years that the results of these tests will determine what level of work a student can do. In this way we are better able to plan a program for the students."

"Evidence from progress year by year in the school of pharmacy."

"Achievement can be predicted with considerable confidence by tests as shown by the research completed."

"Two Ph.D. theses have been written in connection with our program and both prove validity and reliability of testing programs."

"Data accumulated over the years indicates a great amount of reliability."

"For the most part results of the tests corroborated with the accomplishment record of the student."

Extensive studies in predictive testing have been made in a number of member colleges or their mother institutions. At Purdue University in 1960, a study was carried out validating the CEEB and the Purdue Placement Examinations. Among the conclusions reached by the study were: (1) "Adoption of the College Board or Purdue tests for selection purposes in addition to rank in high school graduating class, would improve the success percentage to some extent, given the present criterion of first semester grade point average. In addition, the use of the College Board Entrance Examinations or Purdue Placement Examinations may significantly assist in admission practices for marginal cases of high school rank, and be useful also for placement and counseling purposes." (2) "Further studies and work in the areas of personality measurement, interest, and motivations are needed if we hope to improve substantially upon the present prediction of college success."

The Board of Regents of the University of Georgia, in a recent report regarding the predictive testing program concluded that "in the testing program we have found promises of information of great value in counseling

high school students. This possibility, properly exploited, means that we will be able to help young people choose a successful college or curriculum as well as help the colleges choose successful students. This not only accords with our democratic beliefs, but may help us find among applicants a higher proportion of able students than ever before."

In a research monograph in education on the prediction of academic success, published by the University of Utah, the authors concluded that "the available prediction research must be better integrated and more adequately equated before counselors or students can expect to make consistent effective use of what is now a bewildering array of test profiles, expectancy tables, scattergrams, validated coefficients, and percentile norms."

#### **The New Setting for Admissions Control**

Under the former conditions of the four-year programs, schools of pharmacy were less free to operate through selective admissions than is now the case. Most schools of pharmacy, existing as divisions of universities, could do little more than abide by whatever admission practices the mother institution pursued in admission of new students, especially beginning college freshmen, because freshmen were enrolled from the start as candidates for degrees in pharmacy. As long as schools of pharmacy were obligated to commit themselves to acceptance of beginning college freshmen, an entrance examination requirement, as a safeguard against spurious secondary school units and marks, was practically their only safeguard. The schools could only hope that the general admissions office was protected by regulations providing for a substantial examination and at least a modest passing mark. A substantial entrance requirement, affecting both freshmen and transfers, remains quite important as a partial protection of standards in arts and science courses and as a buffer against undesirable transfers from colleges with low standards, but is no longer the only or even the most effective screening device for admission to the pharmacy curriculum.

Under the five- and six-year programs the schools are now free to institute a very effective supplement to the entrance examination, a test which is much more thorough and predictive than present-day entrance examinations. The first and second pre-pharmacy years can be treated as trial periods with the candidates enrolled in arts and science. Very effective screening, wholesome-



ly geared to local standards, is now being accomplished through the simple requirement that the candidates complete certain required courses, with a specified number of credits with a specified minimum average mark, prior to enrollment in pharmacy curricula. To protect themselves especially from undesirable transfers from colleges with low standards, schools of pharmacy will continue to need some entrance examination requirement, such as a required minimal average on certain well-established entrance tests.

#### Entrance Examination Service

Fortunately, most schools of pharmacy have established some kind of entrance examination requirement. Suitable college entrance examination service on a national scale exists and is well established. Prominent among these are the College Entrance Examination Board, and its co-worker the Educational Testing Service; The American Council on Education; The Iowa Test For Educational Development; The Ohio State Tests; The Science Research Associates; and The College Qualifications Tests of The Psychological Corporation. More than thirty others are in use. The splendid programs of testing of the CEEB are available within seventy-five miles of any point in the United States several times each year and at centers in foreign countries. The cost of the entrance examination services is not in excess of ten dollars per student, and the tests are available on a security basis. The cost of the tests includes test development and follow-up research, provision of all materials, publication of testing dates, remuneration of examiners, the assignment of applicants to their preferred testing centers, the scoring and processing of the tests, and the reporting of results to the school of pharmacy. The program of tests is viewed as an excellent fit to the needs of the pharmacy schools for prediction and as a partial means of controlling admissions of both beginning pre-pharmacy and transfer students.

The preceding discussion points to the conclusion that the AACP does not need a

special battery of tests for admission. It is known that several schools do have special testing programs, for example, law schools, medical schools, and others. These grew up at the behest of several associations of schools in the United States.

#### Summary and Suggestions

1. Based on answers received from 90 per cent of the member colleges, it appears that the greater number have reliable and valid results from their testing programs currently in use and appear to be reasonably satisfied with them.
2. The Committee is of the opinion that it is beyond the financial scope of the schools of pharmacy to support the type of program to develop a special predictive test battery for pharmacy students, for the reason that we have excellent predictive tests now in use the merit and value of which have been thoroughly tested by the examination agencies and confirmed by many of the colleges which have given them. In addition they are available on a security basis and at a nominal cost to the prospective student.
3. The Committee suggests that the Association require that formal admission to schools of pharmacy operating on the 1 plus 4, 2 plus 3, and 2 plus 4 plans be based on satisfactory completion of pre-pharmacy basic courses in arts and science; that such completion be used as one of the main screening devices for admissions; and that each member college set the specifics as to the pre-pharmacy courses, the number of credits required, and the minimum average grade acceptable.
4. The Committee further suggests that the Association require of all candidates for admission to member colleges, including transfers from other colleges, score transcripts on a scholastic aptitude test, an English composition test, and either an intermediate or an advanced mathematics test.

R. W. Morrison, Chairman

#### REPORT OF THE COMMITTEE ON PUBLIC HEALTH AND CIVIL DEFENSE

The Committee on Public Health and Civil Defense, 1960-61, has had three resolutions referred to it by the Executive Committee and from the annual meeting of the Association in Boulder, Colorado, in July, 1960. These resolutions are:

Resolution No. 12, dealing with the establishment in the Association of a central repository of pertinent bibliographies related to Civil Defense; Resolution No. 13, that the Committee on Public Health and Civil Defense explore methods of cooperating

with the American Pharmaceutical Association in the development of a national plan for the integration of the pharmacist into Civil Defense plans; and Resolution No. 21, from the address of the vice president, that the Committee on Public Health and Civil Defense make a study of the teaching of public health courses by member colleges as it exists today and make recommendations as to how the Association and its members might improve matters under the extended program and also present recommendations.

#### **Resolution No. 12**

The resolution indicated that there was no single agency from which information is readily available and that the Association should establish a repository of pertinent bibliographies related to Civil Defense. The American Pharmaceutical Association had its October, 1960, issue of the *Practical Edition* of the *Journal* devoted entirely to Civil Defense. As part of this issue, a Civil Defense directory has been presented which lists by state the Civil Defense directors, emergency hospitals, medical stockpile sites, and pharmacy activities. It should be pointed out that this directory has to do mainly with the Office of Civil Defense and Mobilization (OCDM) and that as part of such a directory this Committee would like to go on record as recommending that the American Pharmaceutical Association compile a list of pharmacists who are vitally interested and who are active or potential leaders in a program for emergency or disaster health services. This list should include not only members of the faculties of the schools of pharmacy, but also practicing pharmacists. It could be compiled by inquiries directed to each of the state pharmaceutical associations and each of the colleges of pharmacy to ascertain the names and addresses of those most qualified and willing to devote time to this important activity. Once such a list is compiled, it might be desirable to organize committees at the national, regional, and state levels and to encourage the formation of similar committees at the local level. It has been suggested that regions be established which would coincide with those of OCDM so that, for obvious reasons, there could be ready liaison between OCDM and these committees. It is suggested that the committees at the various levels not be operational in the sense that they perform certain tasks during disaster, but instead they should be of a nature of other professional societies acting in the pre-disaster era. Their objectives

might well include the collection, study and dissemination of appropriate information; the promotion of interest; and the support of all phases of disaster programs including training. These committees could also serve as advisory to various official agencies charged with the responsibility of the actual operations during disaster. By the establishment of such committees, the objectives of this resolution could be reached and probably be more effective than simply having repositories of information. Such committees would be actively engaged in their duties and would present reports at various meetings which would keep the subject of Civil Defense or disaster preparedness before practicing pharmacists and faculties and students of the schools.

#### **Resolution No. 13**

This resolution deals with the endorsement by the Association of leadership of the American Pharmaceutical Association of the development of a national plan for the integration of the pharmacist into Civil Defense plans. It is felt that the suggestions made under Resolution No. 12 of this report would fulfill the objectives of Resolution No. 13.

#### **Resolution No. 21**

Directed that a study of the public health courses of member colleges be carried out and recommendations be made to the Association and its members to improve the teaching of public health courses under the extended program. It is felt that Civil Defense or disaster preparedness could be made a part of the course in public health at the undergraduate level. By incorporation of this material into the public health course, it could be more effectively brought to the attention of the students than a casual presentation at some time other than during the regular course work. A survey of the catalogs of various schools of pharmacy indicates that a majority of the schools teach public health as a course within the professional curriculum. A minority of the schools have this course taught in some other department of the university. Greater stress should be placed on the course in public health because of the changing role of the pharmacist in his everyday activities. It is felt that the general impression of pharmacists is that this is not within their domain, and probably the reason for this is inadequate preparation while in schools of pharmacy. If our faculties will encourage that this course be made more inclusive and greater emphasis placed upon it, the phar-

macist will certainly play a greater role in his community activities as well as in his everyday dealings with the public.

The course in public health should revolve around the teaching of basic principles and concepts of public health, emphasizing the importance of teaching what constitutes the total field rather than dealing with minutiae.

The following syllabus is not to be construed as being anything but a prototype, and it should serve only as a guide and point of departure for those individuals responsible for courses in public health.

#### Syllabus for Introductory Public Health

Public Health No. \_\_\_\_\_

Required course

Offered in the fifth year

Didactic hours: 3 per week

Total hours: 45 per semester

Definition: The course in public health is broad in scope. It considers the broad aspects of all areas of public health, administration, disease control, and the socio-economic influences on total community efforts. A certain amount of stress will be placed on health education.

Prerequisites: All courses of pharmacy curriculum through the fourth year

Objective: To prepare the community pharmacist to take an active part in the public health efforts of his community, through his broad knowledge of public health. His main responsibility lies in the area of health education.

Course outline:

- I. Introduction
  - A. Relationships of preventive medicine and public health
  - B. Definition of terms
    1. Epidemiology
    2. Preventive medicine
  - C. Organization and role of federal, state, and local public health services
  - D. Laws and public health
- II. Statistics
  - A. Vital statistics
    1. Birth and death records
      - a. Registration areas
      - b. Use of these records in public health
    2. Rates
      - a. Dermography
    3. Biostatics
      - a. Use of standard deviation, variance, etc.
- III. Environmental sanitation
  - A. Refuse, garbage collections
    1. Importance in disease spread

- B. Housing
  1. Laws from the public health interest
- C. Sanitation of foods
  1. Formation of ordinances
- IV. Communicable disease
  - A. Epidemiology
  - B. Biostatistics
  - C. Human ecology
    1. Physical
    2. Biologic
    3. Socio-economic
  - D. Preventive measures
    1. Biologicals
    2. Physical-human ecology
- V. Tuberculosis
  - A. Epidemiology
  - B. Biostatistics
  - C. Human ecology
    1. Physical
    2. Biologic
    3. Socio-economic
  - D. Preventive measures
    1. Biologicals
    2. Physical-human ecology
- VI. Venereal diseases
  - A. Epidemiology
  - B. Biostatistics
  - C. Human ecology
    1. Physical
    2. Biologic
    3. Socio-economic
  - D. Preventive measures
    1. Biologicals
    2. Physical-human ecology
- VII. Metabolic diseases
  - A. Epidemiology
  - B. Biostatistics
  - C. Human ecology
    1. Nutrition
    2. Socio-economic
  - D. Preventive measures
    1. Education
- VIII. The school health services
  - A. Introduction to the problem
    1. Purpose
  - B. Criteria
    1. Healthful environment
    2. Health protection
    3. Health education
  - C. Special problems
- IX. Mental hygiene
  - A. Introduction
    1. Definition of terms
  - B. Prevention of mental disease
  - C. Mental hygiene
    1. For the pharmacist
    2. For use by the pharmacist
- X. Industrial hygiene
  - A. Introduction and definitions

- B. Government stake in industrial hygiene programs
- C. Workmen's compensation laws
- D. Industrial hygiene
  - 1. Safety
  - 2. Toxicity of solvents
  - 3. First aid practices
- XI. Public health disaster control
  - A. Scope (industrial or city-wide)
    - 1. Wounds by accidents
    - 2. Fractures
    - 3. Burns
    - 4. Military attack
  - B. Emergency drugs
- XII. Health education
  - A. Introduction and definitions
  - B. Scope
  - C. Types of activity
    - 1. Methods
    - 2. The result

It is recommended that the public health courses be continually surveyed and revised in light of practices as they develop and as a result of consultation with experts in public health matters. The 1960-61 report of the Committee on Curriculum recommends that the public health instruction be discussed at the 1961 Teachers' Seminar as to its current

status and future needs. The Committee seconds this recommendation and hopes that it can be carried out at Madison, Wisconsin, this year.

We have been discussing the place of public health courses in the undergraduate curriculum. It would be in order to think also of public health discussions in postgraduate seminars. Practicing pharmacists could well be briefed on their role in public health. As part of these programs, guest speakers and experts in various phases of public health could be invited to give presentations which would increase the knowledge of the practicing pharmacist. It is also possible that the pharmacist who has had little interest in public health might become most interested and be one who would become interested in the furtherance of the program of OCDM and other forms of disaster preparedness.

As a result of better undergraduate preparation, it is possible that some of our students would like to take graduate study in public health. It is not suggested here that the schools of pharmacy embark on graduate instruction in public health, but that they avail themselves of those programs already in existence.

C. H. Waldon, Chairman

#### **REPORT OF THE COMMITTEE ON RECRUITMENT AIDS**

By resolution passed at the last annual meeting of the Association, this Committee was directed to prepare a booklet containing pharmaceutical projects for high school science students. This has constituted the principal activity of the group during the past year.

Much material has been accumulated, and the Committee is moving toward final agreement as to general format and content. Certain high school science teachers also have given some guidance to the chairman on questions of style. The Committee tentatively proposes the following general format:

##### **Table of Contents**

- Preface*
- Purpose
- Acknowledgements
- Explanatory Comment*
- Scientific subdivisions of pharmacy  
(This statement also to show relationship to and dependence upon many sciences.)
- Pharmacy*
- Statement defining pharmacy, etc., subdivisions, and type of research done

##### *Project*

- Introduction, including leading questions and theoretical discussion
- Material required
- Procedure
- Other suggestions utilizing same procedure

##### *Questions*

- Other related projects

##### *Bibliography*

##### *Pharmaceutical Chemistry*

- Same as above

##### *Pharmacology*

- Same as above

##### *Pharmacognosy*

- Same as above

##### *Index*

##### *Appendix*

- Sources of supplies
- Colleges of pharmacy with addresses

The Committee further envisions the "booklet" to run about 160 pages, to include several drawings and/or photographs, and to include mention of numerous projects not described in detail.



Note should be made here that many faculty people have contributed ideas and suggestions. The Committee is grateful for this help.

Although the A.Ph.A. is now responsible for certain recruitment activities, some data are offered for your information. Sterling Movies, distributor of the career films, has reported that in the year ending March 31, 1961, these pictures were shown as follows:

*Design for Life:* Fifty-nine telecasts to an estimated audience of 946,355; 3,427 non-TV showings to 154,368 people

*Time for Tomorrow:* Sixty-three telecasts to an estimated audience of 1,272,415; 2,886 non-TV showings to 194,908 people

The Association, through this Committee, and with the cooperation of the A.Ph.A., again was represented at the Convention of the National Science Teachers Association. A radioisotope demonstration was added to the careers section of the A.Ph.A. exhibit, and the A.Ph.A. pamphlet was distributed to teachers. Thanks are due the University of Illinois student branch and faculty for their excellent assistance in staffing the exhibit.

This Committee has discussed certain additional projects which it believes might be pursued in the near future, and it wishes to include the following in its report:

1. Greater participation by pharmacy and pharmacists in science fairs at the local, regional, and state levels. The Committee believes that the appropriate associations might be contacted by the nearest college and urged to make their interest known as sponsors and as sources of supplies and assistance.

2. Depending upon a favorable decision to be made with respect to the distribution of the career films as presently sponsored, this Committee might prepare a teacher's manual to be shipped with the films. Many sponsoring groups have done this, and the manual is considered a helpful adjunct to the films.

Considering our relationship to the National Commission on Careers in Pharmacy, the Committee on Recruitment Aids makes the following specific recommendations:

1. That it be provided with a budget for an assembled meeting early in the fall, for some secretarial assistance, and for postage. The purpose of this provision is to complete the copy for the high school project book.
2. That the A.Ph.A. and the National Commission on Careers in Pharmacy be urged to provide for publication and distribution of the project book during the coming academic year.
3. That member colleges be instructed to contact the appropriate pharmaceutical associations in their geographic areas to urge greater participation by pharmacy in local, regional, and state science fairs. It should be made clear to teachers, pupils, and the public that the pharmacist is interested as a sponsor, source of supplies, and even sometimes as a scientific adviser.

The chairman acknowledges with gratitude the work of the Committee members (Deans White and O'Day, Drs. Autian, Beal, and Wenzel).

K. L. Kaufman, Chairman

#### REPORT OF THE COMMITTEE ON STATUS OF PHARMACISTS IN THE GOVERNMENT SERVICE

Your Committee has kept in contact with the Armed Services, the Veterans Administration, the Public Health Service and the Food and Drug Administration. There are excellent opportunities for the pharmacists in each of these government agencies, especially for those who desire to make a career in any one of them. This opinion is authenticated by an unofficial tabulation of pharmacists in the Veterans Administration. Initial employment is in the grade of GS-9 with a basic entrance salary of \$6,435 for pharmacists having at least one year of experience. The highest salary reported was that of GS-14. A total of approximately 550 pharmacists is employed in the 207 Veterans Administration

stations, which are located in every state, with the exception of Hawaii and Alaska.

The Veterans Administration and the Public Health Service provide excellent internships for a limited number of pharmacists. It is realized that such appointments are not possible in the armed services. It is believed that our pharmacy representatives in each Office of the Surgeon General and the Bureau of Medicine could well consider such a program to help alleviate the shortage of pharmacists. It should be noted that career pharmacy officers do have opportunities for post-graduate training. For example, during this school year, the Navy has had three such



officers working toward their Master's degrees.

Pharmacy technician training courses continue to be offered by the Air Force and the Navy. The Navy had sixty-seven who completed this course in 1960. The justification for such courses continues to be that not enough pharmacists are available to give the required pharmacy services. We have been given assurance that all such technicians perform their duties directly under the supervision of pharmacists.

A brochure was again prepared on the subject *Opportunities for Pharmacists in Government Service* and mailed to the deans of all of the colleges of pharmacy on January 5, 1961. The information was obtained from each of the governmental agencies. An effort was made to answer the more pertinent questions that the interested student or graduate might ask as well as to give the proper address for further information. This brochure should be of value to personnel officers and

to everyone interested in the problem of staffing our governmental installations.

The Committee would like again to urge our member colleges to demonstrate an interest in the government hospitals located in their respective states. It is impossible for the three members of this committee to visit these many installations, even if there were money for this purpose. It is more meaningful and effective for you to make and maintain these contacts. Find out the problems that may require aid from the outside; let your Committee hear about it.

Our long-range goal of having pharmacists taken into the Army only as required, on a professional basis and then as commissioned officers, has not been attained. The struggle continues to be long, but it is the hope of this committee that the organizations of pharmacy will become so well integrated that such efforts will be realized in the not too distant future.

Lloyd E. Harris, Chairman

## REPRESENTATIVE AND DELEGATE REPORTS

### REPORT OF THE DELEGATES TO THE AMERICAN FOUNDATION FOR PHARMACEUTICAL EDUCATION

The nineteenth annual meeting of the members of the American Foundation for Pharmaceutical Education was held in New York City, January 24, 1961. The meeting was attended by AACP representatives Richard A. Deno, Louis C. Zopf, Harold G. Hewitt, and Charles W. Bliven, who also serve as directors of the Foundation. Joseph B. Sprowls was present by invitation.

Richard A. Deno was re-elected to the Board of Directors of the Foundation, and Joseph B. Sprowls was elected to the vacancy on the Board created by the expiration of the term of Hugo H. Schaefer. The term of office is for five years, expiring with the 1966 Foundation membership meeting.

At the meeting of the Board of Directors held immediately following the membership meeting, President Toohy reviewed the principal objectives of the Foundation. They are:

1. To encourage and assist in providing improved educational standards and facilities for the adequate training of competent personnel in the practice of pharmacy and all related fields;
2. To supply the pharmaceutical and allied manufacturing industries, hospitals, government agencies, college faculties, and other professional fields with technically and scientifically trained personnel;
3. To help colleges develop strong undergraduate programs;
4. To support graduate work in properly qualified colleges; and
5. To encourage scientific research as a necessary component of graduate work and as special projects.

To help achieve these objectives, President Toohy pointed out that the industry has provided over \$4.5 million dollars to the Foundation. With reference to problems facing industry he stated, "The problems of the moment must not be permitted to distort the critical importance of long-range educational

programs or be used as an excuse to lessen financial support to the Foundation. Indeed, the years immediately ahead will be so critical for all, and the need so great for the products of our colleges, that only the short-sighted will think of support to education as a burden or a drain on profits. Education is the best 'investment' open to our industry. I am sure our industry will take advantage of these opportunities to make even more generous 'investments' in the Foundation."

In his report to the Board of Directors, Secretary W. Paul Briggs noted that the Foundation had "invested" \$1,432,617 in graduate fellowships since 1942, providing 212 scientists for industry, government, etc., and 187 teachers for our colleges. In 1960-61, seventy-five fellows were supported at twenty-six universities.

Sixty-five colleges received \$25,165 for AFPE undergraduate scholarships during 1959-60 for a total of \$471,406 since 1942.

Secretary Briggs stated "... the Foundation should target for \$300,000 in annual contributions within the next five years." He added that this would be about a 50 per cent increase above 1960 contributions.

As one means of increasing contributions he reviewed his previous suggestion to establish a Torch Bearers Club among AFPE fellows. Through this program fellows would purchase a life insurance policy of \$1,000 or more, with the Foundation as the beneficiary. While the return to the Foundation would be far in the future, it was pointed out that it "... would represent significant reimbursement for the educational grants provided by AFPE."

In calling for increased support for the Foundation, Dr. Briggs emphasized the need of education as follows:

The manpower needs of pharmacy, the trade and industry, demand increased output of competent practitioners, skillful, dedicated pharmacy teachers and creative research

and development scientists. For example, the AACP Survey revealed that by 1963 the drug industry will need 71 M.S. and 157 Ph.D. pharmacy graduates and our colleges will require 126 M.S. and 338 Ph.D. pharmacy graduates. This total of 692 scientists needed by industry and education can only be attained by continued support from AFPE. AFPE must not only increase the number of scholarships and Fellowships awarded each year, but the amount of each grant should be increased to compensate for rising living costs and tuition. This should be done now.

Pharmacy student recruitment efforts at both undergraduate and graduate levels, must be continued. The *Journal*, Seminar and Council serve highly useful functions in rounding out the total educational program of pharmacy, and the Foundation may be called upon to undertake new educational projects in the years immediately ahead. Given adequate support by the Foundation I know our colleges can fulfill their responsibility to all of pharmacy.

AACP Executive Committee Chairman Hewitt presented a report on enrollment for 1960-61 in schools and colleges of pharmacy and Secretary Bliven reported on the 1960 Teachers' Seminar and gave a financial report on the *American Journal of Pharmaceutical Education*. The former activity is made possible by an annual AFPE grant of \$8,500 and the *Journal* is supported by a \$7,000 annual grant.

Dr. Hewitt, noting that the AACP member colleges had voted to increase the annual dues from \$200 to \$500, requested increased financial support, in the amount of \$10,000 annually, to make possible a central Association office. Following supporting statements of other directors from the AACP, and considerable discussion, the request was referred to the AFPE Executive Committee.

(Note: At the meeting of the AFPE Executive Committee held February 24, additional support of \$7,500 was voted for the *American Journal of Pharmaceutical Education* for the period September 1, 1961, to August 31, 1962; an additional sum of \$625 was approved to provide the same rate of support for the month of August, 1961. The Foundation included the provision for

an annual reporting to the Foundation of income and expense of the *Journal* and of the Seminar with subsequent financial requests to be considered against the preceding year's balance. By this procedure, the AFPE is assuming the yearly deficit of the *Journal* and, as in the past, full support for the Seminar.)

In the absence of a representative from the American Pharmaceutical Association, Secretary Briggs read the Report on A.Ph.A. Recruitment Activities.

(Note: For information regarding proposed programs by the National Advisory Commission on Careers in Pharmacy and for results of the AACP survey on possible programs, see Items 34 and 5 of the Minutes of the Annual Meeting and of the Post-Session Meeting, respectively, of the AACP Executive Committee.)

The 1961-62 AFPE budget provides for an expenditure of \$140,000 for graduate and teaching fellowships (including citation and memorial fellowships), \$27,500 for undergraduate scholarships, and \$33,000 in support of the American Council on Pharmaceutical Education. The total Foundation expenses for the year are estimated at \$265,500.

AFPE officers elected for the coming year are: president, Charles D. Doerr; vice president, George F. Smith; treasurer, Carl K. Raiser; secretary, W. Paul Briggs; counsel, James F. Hoge.

Elected to the Executive Committee were: L. D. Barney, Charles S. Beardsley, Charles W. Bliven, William N. Creasy, Harold G. Hewitt, Harry J. Loynd, Robert L. Swain, John J. Toohy, and Charles R. Walgreen, Jr.

The Board of Directors for the coming year is as follows: L. D. Barney, Charles S. Beardsley, Edgar S. Bellis, Charles W. Bliven, Francis C. Brown, Alvin G. Brush, George B. Burrus, John T. Connor, William N. Creasy, John A. Crozier, Richard A. Deno, F. S. Dickinson, Jr., Charles D. Doerr, Lyman C. Duncan, J. H. Fitzgerald Dunning, T. F. Davies Haines, Harold G. Hewitt, J. Mark Hiebert, W. Rutherford James, J. Preston Levis, Eli Lilly, Harry J. Loynd, John E. McKeen, S. Barksdale Penick, Jr., Carl K. Raiser, H. Smith Richardson, Jr., John G. Searle, George F. Smith, Joseph B. Sprowls, Robert L. Swain, John J. Toohy, E. Gifford Upjohn, Charles R. Walgreen, Jr., Edward T. Williams, Louis C. Zopf.

Charles W. Bliven  
Director, ex-officio

REPORT OF THE REPRESENTATIVE TO THE  
NATIONAL ADVISORY COMMISSION ON CAREERS IN PHARMACY

This report covers only the April 27, 1961, meeting of the Commission because the minutes of the August, 1960, meeting have been distributed to the colleges, and much of the recruiting activities has been described regularly in the *Practical Edition of the Journal of the American Pharmaceutical Association*.

The Commission was unable to complete its agenda during the brief time allotted to it at the April meeting; nevertheless, several significant discussions and actions were taken. A summary of these items follows:

I. *Careers Brochure Program*

A. General satisfaction was expressed with current publications, *See Your Future in Pharmacy* and *Shall I Study Pharmacy?* The A.Ph.A. headquarters will continue to serve as distribution and sales point for these items.

B. New publications of a career type were proposed as follows:

1. Junior High School Student booklet

It was pointed out that a junior high school career-type publication probably would cost about \$7,500 per year. It was also mentioned that it was the intention of the Recruitment Aids Committee of the AACP to include references to pharmaceutical projects suitable for junior high school students in the science project book, described below.

2. Supplemental sheets for careers in community, hospital, industrial, government, teaching, and research pharmacy

It was mentioned that these facets of pharmacy are at least briefly covered in the present brochures.

II. *Science Project Book*

The Commission heard the AACP representative describe this proposal

and endorsed it subject to obtaining suitable finances.

III. *Careers Film Program*

It was suggested that the sponsored distribution of the two career films be discontinued one year hence, because of the expense involved. It was reported that the delegates to the AACP annual meeting had strongly endorsed the continuation of the program, and the Commission agreed to attempt to continue financing it.

IV. *A.Ph.A. Careers Exhibit*

The principal question raised with respect to this material was whether or not it should be made available for the National Science Teachers Association and American Personnel and Guidance Association conventions. The Commission endorsed this suggestion and recommend that the A.Ph.A. allow additional funds for making the exhibits more widely available.

V. *National Science Teachers Association Proposal To Establish "Future Scientists of America" Award*

This item was discussed only briefly, and no action was taken.

VI. *Plasticcoat Schoolbook Covers*

Someone had suggested that these be made available with pharmacy careers advertising. No action was taken on this item.

VII. *National Advisory Commission on Careers in Pharmacy Emblem*

No action taken.

VIII. *Central Agency for Distribution of All Career Brochures*

A brief discussion of this suggestion took place in which it was pointed out that this has been achieved in part. It was also mentioned that some sponsors of career brochures may prefer to continue distribution in their present manner. No action was taken.

K. L. Kaufman, Representative

**REPORT OF THE DELEGATE  
TO THE HOUSE OF DELEGATES  
AMERICAN PHARMACEUTICAL ASSOCIATION**

*(Editor's Note: This report was published in this journal Volume 25, No. 1, page 136 (1961).)*

**REPORT OF THE DELEGATE TO THE  
AMERICAN COUNCIL ON EDUCATION**

*(Editor's Note: This report was published in this journal Volume 25, No. 2, page 303 (1961).)*

**REPORT OF THE REPRESENTATIVES TO THE  
NATIONAL DRUG TRADE CONFERENCE**

*(Editor's Note: This report was published in this journal Volume 25, No. 2, page 307 (1961).)*

**REPORT OF THE DELEGATE  
TO THE AMERICAN ASSOCIATION  
FOR THE ADVANCEMENT OF SCIENCE**

*(Editor's Note: This report was published in this journal Volume 25, No. 2, page 310 (1961).)*



PUTNAM F. JONES\*

### TRIMESTER PROGRAMS\*\*

In addressing myself to the topic that we have before us this morning, it has seemed to me that the best service I could render would be to increase the amount of light in regard to trimester programs and thereby perhaps decrease somewhat the heat that seems to envelop the subject.

First, a few facts. The trimester calendar we have introduced at the University of Pittsburgh is an academic year extending from the first of September to approximately the thirty-first of the following July. It is an eleven-months school year divided into three trimesters, as we now call them—that is, three terms of fifteen weeks each. We regard each of those three terms as being equivalent in weight and educational significance to the semesters under which we formerly operated.

The actual dates of the three trimesters are as follows. The fall trimester runs from the first of September to about the twentieth of December; the winter trimester begins right after New Year's and extends to about the twentieth of April; and the third or spring

trimester goes from about April twentieth to the end of July. Students are free to enroll or not to enroll in the third term. It is optional with them.

As far as faculty members are concerned, their participation also is optional. We wanted to make sure that the conditions of employment for a faculty member under the trimester program would be at least as desirable as they were formerly under the semester system.

Those are the bare facts. I would like to go on from there to explain some of the considerations which led us to think that this would be a good academic calendar to experiment with and, hopefully, to adopt permanently.

Let me emphasize that in our thinking about calendar revision, we gave primary attention to educational values. I make this point because many people have laid the emphasis on what you might call administrative or practical considerations rather than on the educational ones.

Here is an example of what I mean by educational considerations. At Pittsburgh we have adopted as a basic institutional policy the idea that for maximum effectiveness in the second half of the twentieth century, a young man

\*Dean, The Graduate Faculty, University of Pittsburgh

\*\*Presented to the AACP, Chicago, Illinois, April, 1961.

or a young woman should ideally have both a liberal and a professional education—liberal for the sake of breadth and depth of understanding, professional for the sake of maximum ability to contribute to society's needs. That concept of the education needed for modern living would have guided us whether there had been any coming bulge of students or not, whether there had been any threatened lack of facilities or not. We would have had to try to find the time to give the students in our institution the complete education we believe in, even without pressures of any other kind.

So our thoughts turned to finding the necessary additional time to offer such a fully-rounded, complete education. We didn't have far to look because, as you know, American education has never been structured to require more than three-fourths of the time available in a given year for education. Thus we could readily see where the additional time could be found in order to provide a more full-rounded education.

The other alternative would have been to allow room for both a liberal and a professional education by extending the time-span for formal education. That is, instead of getting our students out of college at age twenty-two, we would get them out at twenty-four, twenty-five, or twenty-six. Instead of enabling them to finish at twenty-five in the medical program or the Ph.D. program, why not keep them with us until they were twenty-eight, twenty-nine, or thirty? Well, there is one important consideration that makes this an undesirable solution of the problem. It is generally agreed by students of human development—by physiologists, biologists, psychologists—that the period during which young human beings have the maximum amount of energy, enthusiasm, optimism, originality, and creativity is the decade extending

from age twenty-one to age thirty-one. That is the ten-year period during which a person has maximum amounts of everything he needs to move ahead energetically and creatively in a career.

Yet creativity doesn't ordinarily release itself as long as an individual is under the tutelage of somebody else. That is, a man who is working towards a Ph.D. at age twenty-six is still under the direction of a major adviser and a guidance committee. He isn't ready to launch out on his own and show what leadership he can offer in his chosen field.

So the alternative of extending the completion of formal education too far into this period of prime energy and creativity did not appeal to us. The obvious solution, we felt, was to use those idle three months of the year and fill them with the additional education which we wanted our young people to have.

One other consideration was in our minds, and that was the fact that knowledge in our time has really "exploded." The amount of knowledge which a person must master in order to keep abreast of his field is enormously greater today than it was even twenty years ago, and all the signs point to an even more rapid increase in available knowledge during the decades ahead.

I hope you will agree that these are primarily educational considerations. And if they are as important considerations as we thought they were, they are relevant whether we have had a population explosion or not, whether we can run our physical plants more efficiently by year-around operation or not. All of these latter considerations are important, of course; but with us they were not the primary ones. Nevertheless we were pleased to recognize that by this three-term year we would be able to accommodate more students in any twelve months than we had before and without crowding the institution during any

part of the year. We could also see that we would be making fuller use of such capital facilities as libraries, laboratories, dormitories, and the like, the costs of which go on whether you are operating the institution or not. Even in the business area such matters as interest payments on indebtedness continue on an annual basis whether classes are in session or not.

So these were the considerations that led us to think that year-around operation would be desirable for our university. The advantages as we saw them were mainly educational, i.e., related to the intellectual development of young human beings. We also recognized the possibility that there might be some subordinate but very real practical advantages in this kind of calendar.

There is another side of our experience that I think is worth mentioning. I have no idea, of course, whether the institutions which you represent have any thought of going into year-around operation, but I would strongly urge that any decision to adopt such a calendar or not to adopt it be based on a thorough exploration of the probable outcomes in your own individual situation. This is extremely important. We have found on our own campus that every situation is a unique situation and must be explored with the needs and peculiarities of that situation in view.

When we were trying to decide whether to adopt a year-around academic calendar, we had already agreed that such a move would be desirable on educational grounds. There were still, however, some important questions to be answered. Is it feasible? Can it be done here? Can it be done here without harm to our students, our faculty, our instructional programs, our research, our non-academic activities?

We had a large committee to study such questions. We spent from October of 1957 until April of 1958 really combing the campus for expert opinion

on the probable effects of three-term operation in, for example, the department of English, the department of chemistry, the school of medicine, the school of law, the office of admissions, the library, the office of the registrar, the department of athletics, and so on. By the time the committee was ready to make its report, its conclusions were based on very substantial evidence. I should add that the evidence was so substantial and the committee's use of it so careful that virtually all of the predictions the committee made have turned out to be accurate.

In April, 1958, the committee reported that in its judgment a trimester calendar was both feasible and desirable. One of the recommendations that the committee made was that if the chancellor and the trustees approved the committee's recommendation to institute a trimester calendar, fifteen months be allowed for preparation before putting it into operation; in other words, not to begin the first three-term year until the fall of 1959. Both the committee's basic recommendation and the suggested beginning date were approved by the chancellor and the trustees.

Another committee, called the Trimester Planning Committee, spent the summer of 1958 in cataloging the tasks that would have to be performed before beginning the trimester program. That catalog of tasks grew into a volume about as large as a medium-sized city telephone directory. Each task was coded according to what office would have primary responsibility for getting it done, what the time priorities as between that task and other tasks would be, and, since some tasks had to be performed before other tasks could be undertaken, in what sequence that task stood in relation to other tasks. By the fall of 1958, we had a pretty good plan of action laid out. We spent the remainder of that school year in carrying

out the tasks, and, of course, uncovering new tasks that we hadn't even thought of during the summer. We were ready to begin the new program, after fifteen months of planning, with the 1959-60 school year. That was last year, our first year of operation.

We also had decided not to put the whole institution on the new calendar immediately; that is, we phased in by beginning with the freshman and sophomore years of the undergraduate programs in 1959-60. During the present academic year we have added the junior and senior years of the undergraduate programs and shall bring the remaining programs of the institution into trimester operation beginning next fall, that is, in the 1961-62 school year.

Some of the results of the first year's operation may interest you. These results bear on what I told you earlier were our primary considerations, that is, on what the program can mean to the two groups most directly affected, the students and the faculty.

Our office of educational planning sent out a questionnaire to those students who did and those who did not elect to attend in the spring or third term of last year. I had thought it might turn out that the students who enrolled in the third term were the better students and would show higher I.Q.'s. This turned out not to be true. There was no statistically significant difference in I.Q., or even in grade-point averages, between those who did and those who did not elect to go into the third term. So that was one guess that turned out badly, but some other data came to light which I thought were interesting.

Men rather than women seemed to prefer third-term work. Students with clearly-defined professional career goals are more likely to register in the third term than those whose goals are not yet clearly defined. Older students are more likely to continue in the third term than younger ones.

There was one finding of considerable significance which has been confirmed in a later study of the same kind. It is that the students who are in the third term not only are clearer in their minds about their career goals but are also likely to have taken heavier course loads in the other two trimesters than those who do not select third-term study. What this seems to mean is that the student who goes in for third-term study either has a clearer view of the goals he is moving toward or is more strongly motivated to prepare for adult life.

As one of the directors of this research project has said, it is true we did not find that there were higher I.Q.'s among those who took the third term, but in one sense they are better students because they have done more during the other terms, have accomplished more, even though not at higher grade levels. They have got more of what they need as preparation for life during the other two terms, and they are still eager and still able to push ahead.

Those are the kinds of indications that have come out of the studies of the students who did and did not enroll in the third term. We also learned some other things during the present period of receiving applications for admission to the 1961 freshman class. Many students who are applying for admission to colleges and universities nowadays are multiple appliers. Some of them will send applications to a half-dozen institutions. We get those, too; but we also get people who are applying only to Pittsburgh; and because of some questions that our office of admissions has been asking, we find that the great majority of the single appliers, those who apply to Pittsburgh only, also report that the availability of three-term study at the University was one of the major factors in determining them to seek admission to our institution. We have also found that these students are ones who have clearly-defined profes-



sional career goals; that is, they can see that they are going to want to go through both our school of the liberal arts and one of the subsequent professional programs. They can see that the trimester program will enable them to reach their goals in a minimum amount of time. They don't apply elsewhere; they apply to us because this is where they want to come.

We are pleased by this finding, because given the basic educational objective that I mentioned in the beginning, that of providing both a liberal and a professional education for our students, we would be happiest if most of our students came to us willing to receive that total kind of education. We won't exclude anybody who will take only one or the other, but we would like our students to be those who will go through the whole of what we regard as a complete education for life in today's increasingly complex world.

Thus there is beginning to be a kind of self-selectivity among the students who are coming to us, quite an agreeable one from our point of view, because it seems likely to provide us with a student body with the motivations which we would like them to have and which are likely to produce the educational results we hope for.

There are unquestionably real problems in connection with three-term operation. There is one problem we don't have the answer for yet, though we are alert to it and are going to keep watching for data which will lead us, we hope, to a satisfactory solution. That is the possibility of faculty fatigue through continuous three-term teaching. Our people, at least those of them who are on the basic nine-months' teaching appointments, receive a supplement of 33 1/3 per cent of their basic nine months' salary if they elect to teach in the third term. I shall not try to explain the rationale for that 33 1/3 per cent; it is rather complicated, but quite

equitable, we think. There is a fear in some quarters that young faculty members who should be researching and publishing and building a professional reputation will be tempted instead to teach the third term year after year in order to meet the expenses of a growing family.

One institution which recently adopted the trimester calendar has laid down a rule that nobody on their campus will be permitted to teach more than five terms out of any six. In other words, a man may teach in the third term not oftener than every other year. We are not ready to go that far because we believe that there are wide variations among people. There are some people who should probably be allowed to teach three terms year in and year out because they love teaching and are happier teaching than lying in a hammock in the summertime. They don't want to do research; they are teachers. Teaching is what they like to do; they like to be with students. I think people like that will not become fatigued, will not get ulcers or nervous breakdowns from teaching. Teaching is not a disagreeable chore for such people. On the other hand, there are those who should never be allowed to teach three terms in the year. They simply don't have the nervous resources, the physical stamina, or the temperament for year-around teaching.

For the present, then, we are meeting this problem on an individual basis. We expect our deans and departmental chairmen to carry out their responsibilities as personnel officers in their areas by making third-term teaching assignments in accordance with what they know to be the capabilities of the people under their direction.

We believe that there is an ideal solution to the problem of deploying faculty resources under a trimester system. We hope that some day we can have every faculty member in the in-



stitution on a twelve months' professional appointment. This would not mean that everybody in the institution would teach three terms. Faculty activities would presumably remain as diversified as they are now, but money considerations would no longer determine whether a man did teaching between April 20 and July 31 or did research between April 20 and July 31 or in some other period of the year. In other words, the policy of finding the right niche, the right activity within the university context, for every member of a school or division or departmental staff could be carried out on the basis of what a man did best rather than in terms of somebody's need for extra money to make a payment on the mortgage or to get a new car.

Another problem we have is the problem of final examinations. As I said earlier, we believe that our fifteen-week trimesters have the same educational weight and quality as our former semesters, but we are not entirely clear as to whether we want to set aside one of those fifteen weeks for a final examination period or whether we want to leave the decision regarding examinations up to the individual schools, departments, or teachers. There seems no point, for example, to giving up time for a final examination in English composition. If the instructor doesn't know by the end of the fourteenth week whether a given student can write a decent paragraph, he isn't going to learn much more about it by giving him a final examination on the subject.

On the other hand, there are certain kinds of courses in which the final ex-

amination undoubtedly serves as an educational instrument, causing the student to bring together bodies of knowledge which perhaps aren't bundled tightly enough in the regular course of instruction.

Those are some of the problems we still have to solve. There is also the problem, especially for small institutions or small departments, of providing courses in a three-term sequence, i.e., beginning courses for students who may be entering your programs in September or January or April. I am happy to report that most of our departments have solved this problem satisfactorily. It can be done, but it isn't easy. This is one of the reasons why I urged earlier that any institution that is giving thought to calendar revision ought to allow itself at least a year for preliminary study and planning before embarking on a new program.

As for us, it looks as if we made a wise decision. We are pleased with the way things are going, and we are satisfied that for the University of Pittsburgh the trimester program has distinct advantages. Whether other colleges and universities would find comparable advantages in such a program depends on a great many factors—on an institutional willingness to accept change, for example, and a real desire to make new arrangements work.

There seems to be a marked trend in American higher education towards a longer academic year. The question that many institutions are asking themselves is what form the expansion will take on their own campuses. The trimester system is one of the answers.

## SUMMARY OF THE SIXTY-SECOND

(1961)

### ANNUAL MEETING

The sixty-second annual meeting of the American Association of Colleges of Pharmacy was held in Chicago, Illinois, April 24-25. The membership meetings were held in the afternoon of the first day and on the last day while sections of teachers met on the afternoon and evening of April 24.

Of a total membership of seventy-seven active members and three affiliate members, only the University of the Philippines College of Pharmacy (active member) and the Faculty of Pharmacy, University of Toronto (affiliate member) did not have a delegate present. Three hundred and thirty-one delegates and representatives were in attendance.

In addition to the routine business of the Association the program included an address by Dr. Putnam F. Jones, dean, graduate faculty, University of Pittsburgh, on "Trimester Programs" and a panel discussion on the restoration of the traditional pattern of Association meetings, i.e., that the AACP should meet each year with the American Pharmaceutical Association and not separately each third year as approved at the 1959 meeting in Cincinnati. (See President's Section, this *Journal* 23, 607.)

The Summer issue of the *Journal* includes the complete reports of the various committees.

The following items were considered in Executive Session:

#### 1. Constitution and bylaw changes.

Changes in the constitution (Article VII, Officers, and Article VIII, Executive Committee) to provide for the office of executive secretary-

treasurer were presented. Following unanimous consent for a voice vote and a subsequent vote of the delegates, the chairman declared the amendments passed by a two-thirds majority vote of the active membership.

Changes in the bylaws, in order to make them consistent with the constitutional changes, were presented. The changes involved Articles III, V, XIV, and XVIII. After receiving unanimous consent for a voice vote, the required two-thirds majority of members present and voting was received.

(For exact wording of the changes in the constitution and bylaws see the report of the Committee on Constitution and Bylaws.)

#### 2. Pattern of annual meetings.

In accordance with action taken during the report of the Committee on Resolutions, Resolution No. 25, to return to meeting with the A.Ph.A. each year, was presented. A standing vote resulted in a defeat of the resolution 32-31.

The following officers were elected:

President: Lloyd M. Parks  
Vice President: Perry A. Foote  
Chairman, Executive Committee:  
Harold G. Hewitt  
Executive Secretary-Treasurer:  
Charles W. Bliven  
Members, Executive Committee:  
Edward P. Claus  
Jack E. Orr

Charles W. Bliven,  
Secretary-Treasurer

# Executive Committee

## MINUTES OF THE ANNUAL MEETING

Hotel Sherman, Chicago, Illinois

April 21-22, 1961

The meeting was called to order by Chairman Hewitt, April 21 at 9:05 A.M.

Present: Chairman Harold G. Hewitt; President Henry M. Burlage; Vice President Lloyd M. Parks; Members John G. Adams, Melvin R. Gibson, George P. Hager, Kenneth L. Waters; Editor C. Boyd Granberg; Secretary-Treasurer Charles W. Bliven.

### 1. Approval of Minutes.

The minutes of the 1960 annual and post-convention meetings as distributed to member colleges by Secretary Webster were approved after correcting a typographical error in Item 31 of the minutes of the annual meeting.

The minutes of the 1960 interim meeting were approved as printed in the Winter issue of the *Journal*.

### 2. Additions to the Agenda.

Several items were proposed and added with the assent of the Committee.

### 3. Appointment of Committee on Credentials.

Chairman Hewitt appointed George P. Hager and Melvin R. Gibson, chairman, to the Committee on Credentials.

### 4. Communications.

a. The secretary reviewed correspondence with Dr. J. Kenneth Little, director, Survey of Federal Programs in Higher Education, HEW (Item 37, Minutes of Interim Meeting, 1960). The correspondence to Dr. Little, which he

indicated would be "useful to our study and report," set forth the federal programs from which our member colleges are currently deriving benefits and legislation in the 86th Congress in which the AACP was interested.

b. An invitation from International Fair Consultants, Inc., to participate in the Hall of Education for the New York World's Fair 1964-65 was presented. It was the consensus that the secretary should pursue this invitation by consulting with the A.Ph.A. and the chairman of the AACP Committee on Recruitment.

c. Pursuant to Item 3c of the Minutes of the Interim Meeting, 1960, the secretary stated that the secretary of the New York Board of Pharmacy had issued to pharmacy deans a letter relative to the endorsement legislation of pharmacy licenses now effective in that state.

d. Correspondence was presented from a dean of a member college pertaining to the three-year rule of attendance as applied to a specific student. The secretary's reply of approval was voted *on motion*, Hager-Parks, and the secretary was directed to so notify the dean and the secretary of the ACPE.

e. The secretary read a letter from Melvin R. Gibson expressing appreciation to the Executive Committees under which he had served as editor. A letter from President French, Washington State University, acknowledging the sec-

retary's letter in behalf of the past editor was read.

**5. Consideration of Addresses and Reports of Officers.**

President Burlage and Vice President Parks each reviewed his prepared address for the information of Committee members.

The reports of the chairman of the Executive Committee and of the secretary-treasurer were presented and approved by the Committee.

**6. Report of the Editor.**

The report of the editor was reviewed. The Executive Committee members expressed their appreciation to Editor Granberg for the excellence of the Winter issue.

The editor informed the members about the newly formed National Association of Medical and Allied Journals, Inc. which has at its purpose the formation of a "cooperative group of journals in the medical and health field." Dues are \$30.00 for journal members and \$15.00 for individual members.

Following considerable discussion on the subject of back issues of the *Journal*, it was recommended that the editor obtain estimates on microfilming the volumes with the view of microfilming back volumes to facilitate the limiting of such issues to be retained.

**7. Report on Meetings of the American Foundation for Pharmaceutical Education.**

Chairman Hewitt reported that the AFPE, by action taken at the meeting of the Executive Committee on February 24, will assume the yearly deficit of the *American Journal of Pharmaceutical Education*. The increase in grant for the period September 1, 1961, through August 31, 1962, is \$7,500 (for a total grant of \$14,500) with an additional \$625 to adjust for the month of August, the start of the AACP fiscal year.

Through this increased support of the *Journal* and the increase in membership dues, Chairman Hewitt announced that the Association would be able to balance its budget for administration and, thus, would be able to support a full-time secretary-treasurer starting August 1, 1961.

**8. Report on the Joint Meeting of Officers of the AACP with the American Council on Pharmaceutical Education.**

The subjects of major interest to the members were reviewed as a part of the secretary's report to be published in this issue of the *Journal*. Further discussion was deemed unnecessary.

**9. Reports of Representatives to District Meetings.**

President Burlage reported on the meeting of District No. 6; Vice President Parks, District No. 4; and Chairman Hewitt, No. 1.

Dean Hewitt reported that time was devoted to the code of ethics for Connecticut which is to become a part of the regulatory procedure of the board of pharmacy of that state.

(Secretary's note: For resolutions emanating from the various districts, see the report of the Committee on Relationships of Boards and Colleges in this issue of the *Journal*.)

**10. Teachers' Seminar 1962.**

On motion, Adams-Parks, a Teachers' Seminar in Pharmacy Administration was approved for 1962.

**11. "100 Problems in Pharmacy" Booklet.**

The secretary stated that an editor-in-chief for the proposed booklet (Item 31, Interim Minutes, 1960) had not been obtained. The names of several persons were presented and the secretary was directed to renew his efforts in securing someone to head up this project.

**12. Roster of Teachers in Member Colleges.**

*On motion*, Adams-Parks, the publication of the *Roster of Teachers* for 1961-62 was approved. It is to be prepared by the secretary.

**13. Survey of Salaries in Member Colleges.**

*On motion*, Adams-Parks, the issuance of the biennial salary survey by the chairman of the Executive Committee was approved.

**14. Expense Allowance for Members of the Executive Committee.**

*On motion*, Gibson-Burlage, an allowance of twenty-five dollars a day was approved for members for each day the Committee was in session, the president, chairman, and secretary-treasurer excepted.

**15. Guiding Principles Relative to the Extension of the Traditional Academic Year Program.**

The "Guiding Principles of the AACP Relative to the Extension of the Traditional Academic Year Program" included as Enclosure A to the Interim Minutes, 1960 (see also Item 15, Interim Minutes) were reviewed and *on motion*, Parks-Hager, it was voted to present them to the membership as a resolution from the Executive Committee.

(Secretary's note: The "Guiding Principles" were adopted by the membership.)

**16. Statement of Policy on Review Courses for Board Examinations.**

Pursuant to Item 13 of the Minutes of the Interim Meeting, 1960, Dean Hager presented a resolution designed to express the Association's policy on review courses for board of pharmacy examinations. After considerable discussion, a resolution (Enclosure A) was approved *on motion*, Hager-Waters, for

presentation to the membership from the Executive Committee.

(Secretary's note: This resolution was adopted by the membership.)

**17. Evaluation of Teachers' Seminars.**

In accordance with Item 6 of the Minutes of the Interim Meeting, Vice President Parks, as chairman of a subcommittee to study this problem, reported he was recommending, in his address, that a special committee be established for this purpose.

**18. Publication of Proceedings of Teachers' Seminar.**

The adoption of a procedure for the publication of the proceedings of teachers' seminars was discussed fully. Editor Granberg expressed his opposition to having the proceedings published as one issue of the *Journal* and to including this as an added duty of the editor.

*On motion*, Hager-Adams, it was voted that the publication of the proceedings of teachers' seminars be made a responsibility of the full-time secretary who, by working with the editor of the *Journal*, will arrange for the publication of the proceedings in a form compatible with the *Journal*. (Reference: Item 33 and addendum thereto, Minutes of Annual Meeting of the Executive Committee, 1960.)

A quotation of approximately \$2,000 from Plain Talk Publishing Co., Des Moines, based on the 1960 proceedings, was noted.

**19. A Means of Providing Publicity for Pharmacy.**

Dr. Gibson described in considerable detail the work and the programs of the National Association of Educational Broadcasters. The NAEB includes members representing nearly 400 non-commercial radio and television stations, production centers, and closed-circuit educational broadcasting installations. Its radio network distributes educational



programs on tape and, through a series of programs, often explores a given subject in depth.

Dr. Gibson spoke of the desirability of such a series of radio programs for pharmacy with the objectives of presenting pharmacy's image to the public and the promotion of pharmaceutical education. The estimated cost for thirteen one-half hour programs is \$2,000 for tapes and editing.

*On motion*, Gibson-Burlage, it was voted that a subcommittee be appointed by the chairman to investigate the NAEB program series with the view of having a series of programs on pharmacy prepared. The subcommittee is to report at the interim meeting.

#### **20. Support for the Journal.**

Dr. Gibson spoke of possible means of increasing circulation of the *Journal* and especially of ways in which increased support might be obtained in the distribution of issues to foreign countries, these issues now being offered without charge in some cases. Foundations, within and outside of the industry, were mentioned as possible sources of aid.

*On motion*, Hager-Burlage, it was voted that the Publication Committee give consideration to (1) ways and means of underwriting the subscriptions of the *Journal* now given without cost and (2) of providing subscriptions, in a like manner, to colleges of pharmacy of additional foreign countries and to graduate students.

#### **21. Sustaining Membership in the AACP.**

*On motion*, Gibson-Burlage, it was voted that the Executive Committee investigate the possibility of establishing sustaining memberships in the AACP to include manufacturers, wholesalers, and others who are interested in furthering the work of the Association in pharmaceutical education.

(Secretary's note: In accordance with Resolution No. 2 adopted by the membership, the Committee assigned this study to a special committee. See Item 11, Minutes of Post-Session Meeting, 1961.)

#### **22. Proposed Changes in Constitution and Bylaws.**

The changes in the constitution and bylaws as prepared by the Committee on Constitution and Bylaws to provide for the office of executive secretary-treasurer were reviewed and approved. It was noted that the member colleges were notified of the proposed constitutional changes in accordance with the requirements of the constitution.

#### **23. Election of Executive Secretary-Treasurer.**

See Enclosure B.

#### **24. Headquarters for the Association.**

Chairman Hewitt reviewed correspondence with Secretary Apple relative to office space in the American Institute of Pharmacy. The availability of the offices formerly occupied by the American Foundation for Pharmaceutical Education, 1507 M Street, N.W., was noted also. In view of greater space available in the former AFPE quarters at a lower annual cost, and because of the probable future need of the A.Ph.A. for additional office space, *on motion*, Hager-Parks, rental of the suite at 1507 M Street, N.W. was voted.

#### **25. Joint Seminar Meeting with Canadian Conference on Pharmaceutical Faculties.**

The secretary reviewed correspondence from Dr. Riedel, chairman, Teachers Conference, CCPF, and that portion of the report of the Executive Committee of the CCPF relative to a joint teachers' seminar in 1965, the discipline for the seminar to be pharmaceutical chemistry.

*On motion*, Burlage-Adams, the secretary was directed to discuss the possibility of a joint seminar with the officers of the Section of Teachers of Pharmaceutical Chemistry and to report at the interim meeting of the Executive Committee.

#### **26. Legislative Effectiveness and Institutional Survey.**

Dr. Gibson reviewed the series of studies being conducted by the Association of American Medical Colleges relative to national goals for medical education; the first of the series, the study on medical school facilities, appeared in the *Journal of Medical Education*, **35**, 108 (February, 1960). The work was made possible by a grant from the W. K. Kellogg Foundation. Dr. Gibson suggested that the Executive Committee consider the necessity of an extensive survey into the financial needs of pharmaceutical education. This survey would serve as resource material for future requests for financial assistance from government and other sources.

Dr. Gibson expressed the need for a Committee on Legislation for Pharmaceutical Education and *on motion*, Adams-Burlage, it was voted that a committee of three be appointed by Chairman Hewitt, with the committee to report a basic program to the Executive Committee.

Pursuant to this action, the chairman appointed a committee of Adams, Parks, and Hager, chairman; the secretary was appointed to serve ex-officio.

#### **27. Questionnaires and Surveys.**

The Committee unanimously reaffirmed previous action regarding questionnaires and surveys by any AACP committee, namely that all are to be cleared with the chairman of the Executive Committee to avoid duplication and the collection of data already available. The approved form must carry a note indicating approval by the chairman of

the Committee and must be submitted in duplicate.

Questionnaires and surveys circulated by persons outside of the AACP are to be answered on a personal basis and not as a representative of the Association. (Reference: *Journal* **19**, 381 and **20**, 431.)

#### **28. Status of Current Legislation — S. 1072 and H.R. 3438.**

The action taken with respect to legislation in the current Congress in which the Association is interested was reviewed as a part of the secretary's report previously considered. No further discussion was deemed necessary.

#### **29. Report of Committee on Future Enrollment Problems.**

The report of the Committee on Future Enrollment Problems, by Dean Wilson, was reviewed. It was noted that it was yet incomplete and in view of this was of little value, at this time, in projecting the needs of undergraduate and graduate facilities.

#### **30. Pharmacy Manpower Survey.**

Progress with respect to the manpower survey for pharmacy, including the meeting of Dr. William S. Apple, Dr. George F. Archambault, Dr. William Stewart, U.S. Public Health Service, and Secretary Bliven on April 12, 1961, had been reviewed earlier as a part of the secretary's report to be presented at the membership meeting. No further discussion was held.

#### **31. Proposed Guide for AACP Committees.**

The proposed "Guide for AACP Committees" as prepared by a special committee, with Dr. Richard A. Deno as chairman, was reviewed and the excellence of the guide was noted.

In reference to AACP representation at meetings of district boards and colleges, the report, *on motion*, Parks-Adams, was amended by deleting the

statement "Ordinarily a representative (from the Executive Committee) is appointed whose home district is not the district in which he is representing the Association." This change was made for budgetary reasons.

In order to make uniform the procedure of appointing representatives and delegates, and in consideration of other suggestions made by Chairman Deno, the following action was taken by the Executive Committee:

a. *On motion*, Parks-Burlage, it was voted that all representatives and delegates be selected by the Executive Committee and appointed by the chairman.

b. *On motion*, Bliven-Parks, it was voted that the chairman of the AACP representatives to the National Drug Trade Conference be selected by the Executive Committee and appointed by the chairman. (This rescinds the action taken at the Interim Meeting of the Executive Committee, 1960, Item 14.)

c. *On motion*, Bliven-Gibson, the Committee on Seminar was made a standing committee.

d. *On motion*, Bliven-Parks, action taken by the Executive Committee in 1954 (*Journal* 18, 296) was rescinded.

The 1954 action required that the standing committees be listed in an appendix to the constitution and by-laws to serve as a guide to officers and committees. Inasmuch as the committees and their membership are carried in each proceedings issue of the *Journal* and are readily available to those concerned, this requirement is deemed unnecessary.

After further consideration of the proposed guide, *on motion*, Adams-Hager, the "Guide for AACP Committees," as amended by paragraph two above, was approved with the directive that any revision necessary as a result of action of the Executive Committee or the membership be made by Chairman Deno.

### 32. Revision of Officers' Manual.

*On motion*, Parks - Adams, it was voted that the Special Committee (Item 31), with Richard A. Deno as chairman, be continued and charged with the revision of the Officers' Manual and that it be incorporated with the "Guide for AACP Committees," published in the *Journal*, and that reprints for five years be obtained.

### 33. Expansion of Scope of Teachers' Seminar.

Secretary Bliven reviewed the desire of the teachers of history of pharmacy, as expressed by Dr. Glenn Sonnedecker, to have the history of pharmacy as an integral part of the Teachers' Seminar in Pharmacy. (For the 1961 seminar, meetings of teachers interested in history of pharmacy are to be held, but are outside the scope of the seminar as planned by the Seminar Committee.)

The possibility of devoting time to continuation programs during a seminar was also discussed.

*On motion*, Parks-Hager, it was voted to refer this subject to the proposed special committee on evaluating teachers' seminars. (See Item 17.)

### 34. Programs of the National Advisory Commission on Careers in Pharmacy.

The secretary reviewed the recruitment activities of the National Advisory Commission on Careers in Pharmacy as proposed for the immediate future. These are as follows:

- a. Continued distribution of the A.Ph.A. brochure *See Your Future in Pharmacy*.
- b. Development of a brochure aimed at junior high school students to supplement existing brochures with single-sheet supplements giving additional information on special areas of the profession.
- c. Publication of a science fair project book.
- d. To make available the A.Ph.A.

careers exhibit for exhibition at such national meetings as the National Science Teachers Association and American Personnel and Guidance Association.

It was noted that the A.Ph.A. had expressed its intention, through a letter to the American Foundation for Pharmaceutical Education, to recommend the discontinuance, as of June 1, 1962, of the current film program involving the national distribution of *Design For Life* and *Time for Tomorrow* by Sterling Movies. The reasons given for the termination were that it was believed the films would have to be revised by June, 1962, and that the response received does not merit the expenses associated with the program. It was further proposed that the films, after June, 1962, be given to the colleges for use in their local programs.

The secretary noted that a consensus of the membership would be gained on this proposal, and on the projected recruitment activities, through the questionnaire on programs of the AFPE to be circulated at the annual meeting. With the results thus obtained, the delegate to the meeting of the Advisory Commission to be held subsequent to the annual meeting could be instructed according to the wishes of the members.

However, following further discussion of the proposal to discontinue the film program, it was voted *on motion*, Hager-Burlage, that the Executive Committee disapprove any change in the current film program until it can be shown that it is ineffective.

### **35. Publication of Index of Teachers' Seminar Proceedings, 1949-58.**

*On motion*, Bliven-Burlage, it was voted that the author and subject index of the first ten seminar proceedings, as prepared by Dr. Richard A. Deno, be printed. The action directed that the cost, in accordance with bids submitted,

not exceed \$675 on the 500 copies to be printed. Two copies are to be forwarded without charge to each member school and individual copies sold at \$1.50.

### **36. AACP Representation at 1961 Meeting of Canadian Conference of Pharmaceutical Faculties.**

*On motion*, Bliven-Hager, it was voted that President Parks represent the AACP at the 1961 meeting of the CCPF to be held at Hamilton, Ontario, starting August 11. Expenses for travel and two days at the meeting are to be borne by the Association.

### **37. Recommendations of the Directing Council, Pan-American Pharmaceutical and Biochemical Federation, 1960.**

The secretary reviewed the correspondence from Leonard J. Piccoli, secretary general of the Federation, noting that Dr. Joseph B. Burt, past-president of the AACP and A.Ph.A., was elected honorary president and Dr. Piccoli third vice president.

Recommendations of the Directing Council of the Federation to the succeeding Council, pertaining to education, were as follows:

- a. That the Directing Council continue efforts to encourage the establishment of Foundations for Pharmaceutical Education in those countries where such financial assistance to pharmaceutical education has not been organized.
- b. That the Directing Council make an effort to organize a Seminar on Pharmaceutical Education to be held at some time prior to the meeting of the Sixth Congress. In this connection the Directing Council has been informed of the proposal by the Chilean Delegation to organize such a seminar, to be held possibly in 1961, at Concepción. The Council further recommends that consideration be



given to holding this seminar under the sponsorship of the Federation, if this arrangement is acceptable to the Chilean Delegation. The Directing Council suggests that Dr. Melvin W. Green of the United States be approached for his assistance in this project.

- c. That efforts be continued to extend the interchange of information on pharmaceutical education by the translation and distribution of significant articles and papers appearing in the *American Journal of Pharmaceutical Education* and other publications. Schools of pharmacy and biochemistry should be urged to take advantage of the standing offer of the free subscription to the *American Journal of Pharmaceutical Education*.

### 38. Adjournment.

Upon approval of the proposal that the remaining items of business could be appropriately deferred until the meeting of the Committee to be held following the annual membership meeting, the chairman adjourned the meeting at 5:15 P.M., April 22.

Charles W. Bliven, Secretary

### Enclosure A

#### Statement of Policy on Review Courses

Whereas, pharmaceutical education is based on the sound premise that pharmacy's services to society require the extensive preliminary education that can only be obtained in at least five academic years of collegiate work, and,

Whereas, special reviews or cram "courses," conducted specifically in preparation for state board examinations in no way qualify the applicant or contribute to his capacity to render the complex and dynamic services, especially those of an intellectual nature, that are the serious responsibility of the pharmacist, and,

Whereas, the collegiate education of

pharmacists, on the one hand, and cram "courses" on the other are totally incompatible, the first obviating the need for the second; therefore,

Be it resolved, that special reviews or cram "courses" in the preparation of students for state board examinations are not consistent with Article I, Section II, of the Bylaws of the American Association of Colleges of Pharmacy; and,

Be it further resolved, that member colleges and their faculties refrain from participation in such special reviews or cram "courses" in the interest of public health, the pharmacy profession, and pharmaceutical education.

### Enclosure B

Dean John G. Adams submitted the following report in behalf of the Subcommittee for Selecting of Candidates for Executive Secretary-Treasurer:

The Subcommittee named to consider nominations for the position of executive secretary-treasurer of the AACP met in New York on January 24, 1961, and considered all nominations submitted as of that date. Following a careful study of the qualifications of all applicants and nominations, the Committee was unanimous in its selection of Dean Charles W. Bliven as the candidate.

Louis C. Zopf

Richard A. Deno

John G. Adams, Chairman

Following discussion of the report of the Subcommittee and a review of the applicants considered, on motion, Hager-Waters, it was unanimously voted that the report be accepted and that Charles W. Bliven be elected executive secretary-treasurer upon adoption by the membership of requisite changes in the constitution and bylaws.

H. G. Hewitt, Chairman  
Executive Committee



## MINUTES OF THE POST-SESSION MEETING

The meeting of the Executive Committee was called to order by Chairman Hewitt at 1:30 P.M., April 26, 1961.

Present: Chairman Harold G. Hewitt; President Lloyd M. Parks; Vice President Perry A. Foote; Past President Henry M. Burlage; Members John G. Adams, Melvin R. Gibson, Edward P. Claus, and Jack E. Orr; Editor C. Boyd Granberg; Secretary-Treasurer Charles W. Bliven.

The chairman congratulated the vice president and the two executive members upon their election by the membership and welcomed them to the Executive Committee.

### 1. Topics for District Boards and Colleges Meetings.

Dean Laurence Gale, chairman, Committee on Relationships of Boards and Colleges, met with the Executive Committee after having met with the NABP Committee on District Meetings in reference to topics for 1961-62 district meetings.

A symposium on the length of internship requirement at a joint session of board and college members was suggested by the joint committee. It was proposed that a five-member panel be utilized with the members assigned one of the following possibilities: (1) one year of internship after graduation, (2) six months after graduation, (3) six

months before and six months after graduation, (4) six months before and three months after graduation, and (5) no internship program.

*On motion*, Burlage-Gibson, it was voted that the president and secretary give further consideration to the suggested symposium and if approved that Chairman Gale refer it to the eight district secretaries.

Dean Gale commented that the NABP hoped to have a definite proposal at its 1962 meeting relative to the length of the internship program.

Additional possible subjects for discussion at district meetings included the following: (1) Pharmacy—Trade or Profession?, (2) Should a Layman Serve on a Board of Pharmacy?

Following discussion of the duties of the Committee on Relationships of Boards and Colleges, *on motion*, Parks-Gibson, it was voted that the Committee (the chairman and eight district secretaries) should function as a coordinating committee to suggest topics for meetings. It was further requested that this function be included in the forthcoming "Guide for AACP Committees."

### 2. Representatives to District Meetings.

The Executive Committee selected the following persons to represent the Association at the 1961-62 meetings:

District	Place	Date	Representative
1	Boston, Mass.	October 9-10	Adams
2	Williamsburg, Va.	November 2-4	Bliven
3	Mobile, Ala.	October 15-17	Foote
4	Columbus, Ohio	November 16-18	Claus
5	Fargo, N.D.	October 8-9	Granberg
6	Little Rock, Ark.	February 12-13	Burlage
7	Seattle, Wash.	October 22-24	Gibson
8	Salt Lake City, Utah	October 29-31	Orr

### 3. Instruction of Delegate to the National Commission on Careers in Pharmacy.

Dean Karl Kaufman, AACP delegate to the Commission and chairman, Committee on Recruitment Aids, met with the Executive Committee in order that the results of the questionnaire relative to recruitment aids could be reviewed with him.

While only forty-five questionnaires were available for tabulation at that time, the information given below was taken from a total of fifty-nine returns; the conclusions from the smaller number were not changed by the additional fourteen returns.

- a. Forty-two of fifty-six voting would continue, as at present, the current film program of *Design and Time*.
- b. Thirty-eight of fifty-nine would continue the brochure program *Shall I Study Pharmacy* as at present. Nineteen would increase the program.
- c. Thirty-four of fifty-seven voting would increase exhibits at national meetings, e. g., National Science Teachers Association and the American Personnel and Guidance Association. Twenty-one would continue the program as at present.
- d. With respect to new projects, the following priority voting was noted:

- (1) A brochure designed specifically for junior high school students.

Of fifty-two voting, forty-five votes were rather equally distributed between first, second and third priority.

- (2) Revision of current films.

Of thirty-nine voting, fourteen gave it third priority with fourth priority receiving

eight votes, and first and second priority each six votes.

- (3) A new film.

Of twenty-six voting, twenty-two voted about equally to place this project in fourth and fifth priority.

- (4) Science project book.

Of fifty-four voting, forty-four divided their votes equally between first and second priority.

- (5) Consolidation of all existing career brochures into one.

Of forty voting, fifteen gave this first priority, nine voted for third priority, and eight for second priority.

On the basis of the above and the previous action of the Executive Committee (see Item 34 of the minutes for April 21-22), the consensus of the Executive Committee was as follows:

- a. The film program should be continued until shown to be ineffective.
- b. The brochure *Shall I Study Pharmacy* should be continued. However, the desire on the part of some for a consolidation of brochures was noted.
- c. That an increased use of exhibits at meetings of certain national associations is desired.
- d. That a brochure designed specifically for junior high school students might well be given serious consideration.
- e. That a revision of current films is of little need at present. The need for a new film is of lowest priority.
- f. The science project book is of highest priority among new projects considered.

President Parks expressed his desire to continue the present Committee on

Recruitment Aids and will recommend a subcommittee of three from the Committee to finalize the copy for the science project book.

*On motion*, Parks-Burlage, a budget of \$250 was approved for the full Committee.

In view of the limited budget for 1961-62 and inasmuch as the recruitment program is now a function of A.Ph.A., action taken at the interim meeting, 1960, was reiterated, i.e., that the A.Ph.A. provide a budget for annual exhibits of the National Science Teachers Association.

#### **4. Summer Session of the University of Colorado, School of Pharmacy—An Accelerated Program?**

*On motion*, Parks-Adams, the Executive Committee voted to refer this question to the Committee on Educational Policies.

#### **5. Centennial Program of the American Association of Land Grant Colleges.**

The secretary reviewed an invitation to the Association from the American Council on Education to participate in observing the centennial of the act establishing the nation's land-grant colleges, the anniversary to occur throughout the school year 1961-62.

Following discussion, *on motion*, Parks-Gibson, it was voted that the editor consider inviting a contributed article for inclusion in the *Journal* on land-grant colleges and schools of pharmacy.

#### **6. Appointments of Delegates and Representatives.**

The following new delegates and representatives were selected by the Executive Committee and appointed by Chairman Hewitt:

American Association for the Advancement of Science—Curtis H. Waldon

National Advisory Commission on Careers in Pharmacy—Karl Kaufman

National Drug Trade Conference—Charles W. Bliven, 1964

National Association of Retail Drug-gists—Perry A. Foote, Henry M. Burlage, alternate

#### **7. Authorization for Capital Expenditure.**

*On motion*, Parks-Burlage, the chairman of the Executive Committee and the secretary were authorized to cash bonds not to exceed \$2,000 in value for the purchase of capital equipment essential to the establishment of an office in the name of the Association.

#### **8. Budget for 1961-62.**

The secretary presented a suggested budget for the fiscal year August 1, 1961, to July 31, 1962, which was discussed and approved with a final budget to be presented for action at the interim meeting.

In regard to the budget for the *Journal*, an increase of about 10 per cent was allowed on the basis of correspondence of the editor with Plain Talk Publishing Co., the current publisher.

*On motion*, Adams-Burlage, it was voted that the chairman of the Executive Committee enter into a three-year contract for the Association with the executive secretary-treasurer for the term starting August 1, 1961.

#### **9. Interim Meeting, 1961.**

The interim meeting of the Executive Committee was approved for Wednesday and Thursday, November 8-9, 1961, Hotel Bismarck, Chicago.

#### **10. Committee Appointments.**

President Parks reviewed his proposed appointments to regular and special committees for 1961-62 and received concurrence from the Committee.

**11. Resolutions from Annual Meeting, 1961.**

Action taken on resolutions emanating from the annual meeting was as follows:

*Resolution No. 1*, that a special committee on faculty membership be appointed, and *Resolution No. 2*, that this committee study the feasibility of a sustaining membership in the Association, are to be considered by a Special Committee on Faculty and Sustaining Membership appointed by the president.

*Resolution No. 3*, that the Executive Committee consider the advisability of a conference of administrators of member colleges, is to be considered at the interim meeting.

*Resolution No. 7*, that a more thorough study and evaluation be made of the teachers' seminar, was assigned to a Special Committee on the Evaluation of Teachers' Seminars, the tentative membership of which was approved by the Executive Committee.

*Resolution No. 8*, that the Executive Committee study the feasibility of the Association being compensated for certification of education and graduation records by member colleges on application for reciprocal licensure, was assigned to a subcommittee of the president, chairman of the Executive Committee, and the secretary.

*Resolution No. 12*, that time be devoted during the next pharmacy teachers' seminar to the subject of public health instruction, was referred to the Special Committee on the Evaluation of Teachers' Seminars.

*Resolution No. 15* regarding the organizational structure of the Conference of Teachers was referred to the Council on Conference of Teachers.

*Resolution No. 20* requested that the Committee on Recruitment Aids be given a budget for a meeting in order to complete the copy for the science project book. In accordance with action

taken (see Item 3, these minutes) a budget of \$250 was allowed.

**12. Acceptance of Grants from the Profession for Special Projects.**

The Committee gave considerable time to ways and means by which funds for special projects or awards might be accepted and administered within the present policy framework of the Association (Reference: *Journal 21*, 287 (1957)).

This policy states, in part, "The Association will not use its limited funds to provide awards and prizes, and does not accept, administer, or endorse offers of 'labeled' gifts to the Association or to colleges of pharmacy." In full recognition of the work and the part played by the American Foundation for Pharmaceutical Education, the policy also states, "The Association urges that any future plans for prizes and awards on a national basis be coordinated with the program of the Foundation in order that maximum benefits may accrue to all and from all available segments of pharmacy."

Dr. W. Paul Briggs, executive director, AFPE, met with the Executive Committee to review the existing policy and to explore ways and means by which grants from the profession might be received and administered to the benefit of pharmaceutical education.

In view of the indicated need for further attention to this subject and in view of the AFPE study of its current programs to be completed in July, *on motion*, Adams-Orr, it was voted that a subcommittee be appointed to meet with representatives of the AFPE.

**13. Meeting of Representatives of Schools Interested in Continuation Studies.**

The Committee took note of the scheduled meeting of school representatives interested in continuation studies called by Dean Arthur G. Zupko, chair-

man of the Committee on Continuation Studies. Dean Zupko, sitting with the Executive Committee, told of the encouraging response to a letter announcing the meeting. He stated that while there was no intention, at this time, of organizing a section of teachers in this area, there was a possibility of a section being formed at a later date. In

view of this possibility, it was suggested that he work with the Council on Conference of Teachers.

**14. Adjournment.**

There being no further business to come before the Committee, the meeting was adjourned at 5:30 P.M., April 26, 1961.

Charles W. Bliven, Secretary



## President's Section

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### BETTER TO LIGHT ONE CANDLE

The annual Report of the Editor of the *American Journal of Pharmaceutical Education*, which appears on other pages in this issue, contains a very interesting and revealing survey and analysis of its contents during the past ten years. Two facts stand out with startling clarity in that report. The first is that only a little more than one-third of the faculty members in our colleges of pharmacy subscribe to the *Journal*. The second is that nearly one-half of our colleges have made little or no contribution to the content of the *Journal* in the last five years.

What is the reason for the small number of paid subscriptions among our faculties? Is it a lack of interest on their part in the activities of pharmaceutical education that are going on about them? Does the *Journal* have a poor "image" in the minds of a majority of our faculties? Or are there other reasons? As the official organ of the AACP, the *Journal* does publish the reports of committees, addresses of officers, and other business of the Association in its annual proceedings issue, and some of these may not be of much interest to many of our teachers. But this takes up the space of only one issue and the editor's analysis has shown that the other issues contain a good balance between articles of interest in specific areas of the curriculum and those of general interest to anyone active in pharmaceutical education.

What is the reason for the paucity of contributed articles from the faculties of nearly one-half of our colleges

of pharmacy? Is it again a lack of interest; a lack of initiative; or a lack of productivity in new ideas, new teaching methods, and interesting innovations? Is there really nothing new and different in the dynamics of teaching among the faculties of nearly half of our colleges? This I find hard to believe. I can personally recall two or three examples of innovations that were developed by graduate assistants in my own laboratory courses to improve the instruction and understanding of our students. But I must confess that, while these would have been of interest to other teachers, I did not take the initiative to submit them for publication in the *Journal*.

The *Journal* is what we make it. Editor Granberg has invited constructive criticism and suggestions for change that will improve it in terms of reader interest. Let's take advantage of his invitation. If the *Journal* does have a poor "image" I am sure he would be greatly interested in learning the reasons for it. If we want our *Journal* to be more like the *Journal of Chemical Education* in its content let's tell the editor this; but, along with the suggestion, let's send him a paper for publication that will help him to make the *Journal* into the "image" we would like it to be.

"Better to light one candle than to curse the darkness" is the motto of a religious group known as The Christophers. Isn't it also somewhat appropriate advice for us in our relationships with our *Journal*?

Lloyd M. Parks

This is vacation time in America. During the months of June, July, and August literally millions of Americans have been rushing to the highways in search of scenic beauty, adventure and fun. The roads the vacationer travels vary from sleek concrete or macadam expressways to dirt trails scarcely passable.

Roads have always been important and necessary to the development of our civilization. Down through history events have been marked and progress has been noted by reference to roads. The Damascus Road, the Jericho Road, the Jerusalem Road. The Appian Way. The Burma Road. The Alcan Highway. Roads used for pleasure, roads used for commerce. Roads used for defense.

The adventurous history of America can be traced in its roads. Starting as buffalo or Indian trails the paths carried wagon trains and the pony express westward over hill and mountain; across prairie and desert; through canyon and valley to the Pacific. The Cumberland Trail, the Wilderness Trail, the Mormon Trail, the Northwest Passage, the Oregon Trail—routes fabled as leading to riches and plenty, to milk and honey, to gold and silver, to the Gateway to the Pacific. To San Francisco.

Just so, pharmacy across the centuries has travelled its roads. Generally the direction has been the same as that in which the rest of civilization has

been going. In America that direction has been west, and just so pharmacy's latest road has wound over the same hills and mountains that were crested by the pioneers; pharmacy's latest road has descended into the same valleys and canyons; pharmacy's latest road has reached its destination—but not its destiny—its terminal—but not its termination—in a court room in the City of the Sea, the city of San Francisco.

Some of the previously mentioned roads of antiquity had names other than the ones to which I have made reference. The Jericho Road was also known as the Road of Service, the Road of Humanitarianism. This is a road pharmacy has travelled for centuries, and it is a road that will not be denied to future generations of dedicated benefactors by a single roadblock in San Francisco.

There may be some who will remind us that the road to Jericho led to a city surrounded by a wall; that to capture the city all that was necessary was the sound of the trumpet and a great shout to cause the wall to fall down flat. Today even theologians will admit that this story has some basis in science. Geologists tell us that the ancient city was situated in one of the earth's greatest rifts, i.e., that it was built upon a *fault*. The profession of pharmacy is not built upon fault or frailty; it is founded on the solid rock of humanitarianism, of service, of philanthropy, and a single blow on a

trumpet will not cause its walls to come tumbling down!

The Damascus Road of old was known also as the Road of Awakening. Perhaps pharmacy's latest route to San Francisco will prove to be our Road of Awakening. Possibly pharmacists will now be awakened and be made aware of one of the most dramatic uses of roads—defense. The American Pharmaceutical Association has provided a means by which each of us may contribute to building a detour around the San Francisco roadblock. The Defend the Profession fund is the opportunity for all pharmacy, for all pharmacists, to become participants in the building of a superhighway for pharmacy. A tollway, if you please, to pass from mountain peak to mountain peak, bypassing the valleys and canyons and gorges.

Why should you share in this road-building program? What will it benefit you—this racing from peak to peak across the mountains, perhaps with your head in the clouds? This is not a selfish, silly or impertinent question. If it were, it could be answered facetiously that the end of the trail would find us on the proverbial Cloud Nine. When, however, the question is asked honestly and sincerely it is a good question and deserves a straightforward answer.

Seriously and factually these will be the benefits—the credits—of being a part of professional road building: security and fellowship. A warm, creative fellowship in which pharmacists feel welcome and needed. A community of interest and activity where differences of race or class or religion or wealth are not important. A fellowship where pharmacists are given the opportunity to use their talents in creative work and service of the high-

est order. A fellowship wherein each recognizes the deepest aspirations of the profession and is willing to work unceasingly toward fulfillment of those aspirations.

Security as used here is far-ranging. It includes the certainty of financial success, but it is much more than that. It is freedom. Freedom to practice the profession as the individual chooses, so long as this is done ethically, legally, and without infringing on the rights, privileges and prerogatives of others—either in or out of the profession.

Security is protection. Protection from the unscrupulous or unethical members of the profession as well as from those unprepared and untrained who constantly attempt to encroach upon the profession.

Security is stability. It means being part of a profession that is constant and durable. It means being part of a profession that is capable of resisting all forces tending to distort and warp its public image.

Security is respect—the privilege of being held in high regard by those with whom one has to do. And at the same time it is being respectable—being worthy of esteem.

Security is unity and solidarity.

These are the things that await us at the end of the new road pharmacy now needs to build. It will be a difficult construction job demanding the ultimate in leadership. It will require leaders with the warlike qualities of an Achilles coupled with the characteristics of a Ulysses who combined the skill of a general with the craft of a politician. It cannot, however, be the type of leader who would have for his motto, "Le roi le veut"; the king wills it.

The trails and paths have given way to freeways and expressways. One can no longer experience the adventures of the pioneers in their westward trek, but the deeds, the battles, the victories and the losses are recorded mile after mile on historical markers dotting their routes. A new type of pioneer with new experiences and adventures now rides the highway; the freedom-rider, the member of the Peace Corps. Their deeds, too, will be commemorated.

Is there a new-type pioneer ready to travel pharmacy's superhighway to prove our vigor, our capacity to achieve excellence? To prove that we are capable of, and worthy of, survival? The Road to Jerusalem was known as the Road to Commitment; pharmacists, through the Defend the Profession fund, can build a comparable road.

C. Boyd Granberg

# Miscellaneous Data

## COMMITTEE APPOINTMENTS AND OTHER INFORMATION AACP, 1961-1962

### STANDING COMMITTEES\*

1. **Committee on Constitution and Bylaws**  
Roy A. Bowers, 1964, chairman; Joseph B. Burt, 1962; E. L. Cataline, 1963.
2. **Committee on Curriculum**  
Richard A. Deno, 1964, chairman; George P. Hager, 1962; Albert L. Picchioni, 1962; Esther Jane Wood Hall, 1963; Glen J. Sperandio, 1963; Clifton J. Latiolais, 1964.
3. **Committee on Educational Policies**  
Noel E. Foss, 1962, chairman; Kenneth L. Waters, 1962; Jack E. Orr, 1963; Lee Worrell, 1963; Ralph W. Clark, 1964; L. David Hiner, 1964.
4. **Executive Committee**  
See Masthead of the *Journal* for members.
5. **Nominating Committee**  
Appointed by the president in advance of the annual meeting.
6. **Joint Committee on Pharmacy College Libraries**  
Patrick F. Belcastro, 1963, chairman; Albert C. Smith, 1962; M. Margaret Kehl, MLA, 1962; Mildred Clark, SLA, 1962; Efren W. Gonzalez, SLA, 1963; Philip Rosenstein, MLA, 1963.
7. **Publication Committee**  
See Masthead of the *Journal* for members.

\*The year after the name indicates the year in which appointment terminates at the time of the annual meeting.

8. **Committee on Relationships of Boards and Colleges**  
Laurence E. Gale, 1963, chairman; other members are the eight secretaries listed for the districts of boards and colleges.
9. **Committee on Resolutions**  
Appointed by the president in advance of the annual meeting.
10. **Seminar Committee (1961)**  
Louis W. Busse and August P. Lemberger, co-chairmen; Vishnu N. Bhatia; Charles W. Bliven, John L. Lach; Donald M. Skauen; Arthur H. Uhl.
11. **Council on Conference of Teachers**  
Martin Barr, 1962, chairman; Dale E. Wurster, 1963, vice chairman; Joseph H. Kern, 1963, secretary-treasurer; Louis W. Busse, 1962, AACP representative; R. George Kedersha, 1962; Joseph P. Buckley, 1963; Takeru Higuchi, 1963.

### CONTINUING COMMITTEES

1. **Committee on Audio-Visual Education**  
Edward J. Ireland, chairman; Wallace Guess; William L. Blockstein; Jean Brown; N. W. Fenney; L. Wait Rising.
2. **Committee on Continuation Studies**  
Arthur G. Zupko, chairman; Charles S. Haupt; Richard S. Strommen; John L. Voigt.
3. **Committee on Future Enrollment Problems**  
Stephen Wilson, chairman; Seldon D. Feurt; Joseph H. Kern; LaVerne D. Small.
4. **Committee on Graduate Programs**  
E. A. Brecht, chairman; Ole Gisvold; Francis C. Hammerness; Alfred N. Mar-



tin, Jr.; Arthur E. Schwarting; Ewart A. Swinyard.

**5. Joint Committee on Hospital Pharmacy (AACP Members)**

Warren E. Weaver, 1962; Elmer Plein, 1962; Glenn L. Jenkins, 1963; Tom D. Rowe, 1963.

**6. Committee on Public Health and Civil Defense**

Curtis H. Waldon, chairman; B. E. Benton; Samuel T. Coker, Vernon A. Green; William W. Stiles.

**7. Committee on Recruitment Aids**

Karl L. Kaufman, chairman; John Autian; Jack L. Beal; David W. O'Day; Allen I. White; Duane G. Wenzel.

**8. Committee on Status of Pharmacists in the Government Service**

Lloyd E. Harris, chairman; Clifton E. Miller; Stanley G. Mittelstaedt.

**SPECIAL COMMITTEES**

**1. Special Committee on Individual Membership**

Glenn L. Jenkins, chairman; Henry M. Burlage; Frank E. DiGangi; Raymond E. Hopponen; Joseph H. Kern.

**2. Special Committee on Recruitment for Graduate Study**

Edward E. Smismann, chairman; John A. Biles; David E. Guttman, Louis Malspeis; Joseph Sam.

**3. Special Committee on Evaluation of Teachers' Seminars**

Joseph B. Sprowls, chairman; V. N. Bhatia; Robert V. Evanson; Stanley G. Mittelstaedt; Morton J. Rodman; Varro E. Tyler, Jr.

**REPRESENTATIVES, DELEGATES, AND DIRECTORS**

**1. Representative to the American Association for the Advancement of Science**

Curtis H. Waldon, 1962.

**2. Delegates to the American Council on Education**

Arthur H. Uhl, 1964, voting delegate; Noel E. Foss, 1962, first alternate; George L. Webster, 1962, voting delegate; Warren E. Weaver, 1962, first alternate.

**3. Directors of the American Council on Pharmaceutical Education**

Joseph B. Burt, 1962; Louis C. Zopf, 1964; Linwood F. Tice, 1966.

**4. Directors of the American Foundation for Pharmaceutical Education**

Louis C. Zopf, 1964; Richard A. Deno,

1965; Joseph B. Sprowls, 1965; Charles W. Bliven, ex officio; Harold G. Hewitt, ex officio.

**5. Delegate to the House of Delegates of the American Pharmaceutical Association**

John G. Adams, 1962; George L. Webster, 1962, alternate.

**6. Representatives to District Meetings of Boards and Colleges of Pharmacy**

John G. Adams, District 1; Charles W. Bliven, District 2; Perry A. Foote, District 3; Edward P. Claus, District 4; C. Boyd Granberg, District 5; Henry M. Burlage, District 6; Melvin R. Gibson, District 7; Jack E. Orr, District 8.

**7. Representative to the National Advisory Commission on Careers in Pharmacy**

Karl L. Kaufman, 1962.

**8. Delegates to the National Drug Trade Conference**

Joseph B. Sprowls, 1962, chairman; Lloyd M. Parks, 1963; Charles W. Bliven, 1964.

**9. Representatives to the National Association of Retail Druggists**

Perry A. Foote, 1962; Henry M. Burlage, 1962, alternate.

**CONFERENCE OF TEACHERS**

Officers of the Council on Conference of Teachers constitute the officers of the Conference.

**Sections of Teachers**

Officers and representatives for each section are listed in the following order: chairman; vice chairman; secretary-treasurer; representative to the Council on Conference of Teachers.

**Biological Sciences**

Varro E. Tyler, Jr.; Ralph F. Voigt; Maurice C. Andries; Joseph P. Buckley (1963).

**Chemistry**

Joseph H. Burckhalter; Edward E. Smismann; Louis Malspeis; Takeru Higuchi (1963).

**Graduate Instruction**

Ole Gisvold; Egil Ramstad; Seymour Blaug; Dale Wurster (1963).

**Pharmacy**

Patrick F. Belcastro; E. Roy Hammarlund; Robert V. Petersen; Martin Barr (1962).

**Pharmacy Administration**

Francis C. Hammerness; Melvin Hoevel; Joseph D. McEvilla; R. George Kedersha (1962).

**DISTRICTS OF  
BOARDS AND COLLEGES**

Officers of each district are listed in the following order: chairman for the boards, chairman for the colleges; and secretary-treasurer. (*Editor's Note: Officers listed are for 1961 meetings with the exception of District 6 which lists the officers for the 1962 meeting.*)

**District 1** (Conn., Me., Mass., N.H., R.I., Vt.)  
Maurice Posnick; Pierre F. Smith, William O. Foye.

**District 2** (Del., D.C., Md., N.J., N.Y., Pa., Va., W.Va.)  
Paul C. Tique; Frances J. O'Brien; Noel E. Foss.

**District 3** (Ala., Fla., Ga., Miss., N.C., P.R., S.C., Tenn.)  
Lester Thaggard; S. T. Coker; Lewis Nobles.

**District 4** (Ill., Ind., Ky., Mich., Ohio, Wis.)  
Edward F. Kaminski; Glen Sperandio; Edward J. Rowe.

**District 5** (Iowa, Minn., Nebr., N.Dak., S.Dak.)  
Ansul Suckerman; Richard E. O'Neil; H. P. Baumann.

**District 6** (Ark., Kans., La., Mo., Okla., Tex.)  
Ivan Rose; S. G. Mittelstaedt; R. O. Bachmann\*.

**District 7** (Alaska, Idaho, Mont., Ore., Wash., Wyo.)  
Clarence Olberg; Nathan A. Hall; L. W. Rising.

**District 8** (Ariz., Calif., Colo., Hawaii, Nev., N.Mex., Utah)  
C. L. Prisk; I. W. Rowland; E. A. Swinyard.

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\*Resigned June, 1961.

**ROSTER OF DELEGATES AND REPRESENTATIVES  
IN ATTENDANCE AT THE  
SIXTY-SECOND ANNUAL MEETING  
AMERICAN ASSOCIATION OF COLLEGES  
OF PHARMACY APRIL 23-25, 1961  
CHICAGO, ILLINOIS**

**Auburn University School of Pharmacy:**  
Samuel T. Coker

**Howard College Division of Pharmacy:**  
Juanita P. Horton

**University of Arizona College of Pharmacy:**  
Lincoln Chin, Jack R. Cole

**University of Arkansas School of Pharmacy:**  
R. O. Bachmann, T. S. Grosicki, S. G. Mittelstaedt, W. W. Strickland

**University of the Pacific School of Pharmacy:**  
N. S. Matre, Ivan W. Rowland

**University of California School of Pharmacy:**  
D. C. Brodie, T. C. Daniels, Eino Nelson, Sidney Riegelman, Walter Singer

**University of Southern California School of Pharmacy:**  
Edward J. Brady, Wilfred Crowell, Alvah G. Hall, Orville H. Miller

**University of Colorado School of Pharmacy:**  
M. C. Andries, F. C. Hammerness, T. E. Jones, H. R. Mehta, W. A. Shulls, C. H. Waldon

**University of Connecticut School of Pharmacy:**  
H. M. Beal, H. G. Hewitt, P. J. Jannke, M. H. Malone, L. Schramm, D. M. Skauen, W. Walter

**George Washington University School of Pharmacy:**  
C. W. Bliven

**Howard University College of Pharmacy:**  
Chauncey I. Cooper, Gilbert J. Hite, Theodore B. Zalucky

**Florida A.&M. University School of Pharmacy:**  
Marie L. Best, Billy H. Davis, Barbara Foster, R. Foxx, Percy Goodman, Murphy D. Jenkins, Beatrice Torres, Enons Ward, Jr., Irmateen Yelling

**University of Florida College of Pharmacy:**  
C. H. Becker, P. A. Foote, C. S. Haupt, L. B. Kier, T. D. Malewitz, W. E. McConnell

**Mercer University Southern College of Pharmacy:**  
Oliver M. Littlejohn, Terry Nichols, S. M. Wang

**University of Georgia School of Pharmacy:**  
Charles Hartman, Ritta Leverette, C. N. May, A. E. Wade, Kenneth L. Waters

**Idaho State College of Pharmacy:**  
Laurence E. Gale, N. Marie Higgins

**University of Illinois College of Pharmacy:**  
M. I. Blake, C. A. Blomquist, F. A. Crane, D. L. Deardorff, Bernard Ecanow, H. M. Emig, H. S. Fu, J. E. Gearien, E. R. Kirch, F. P. Siegel, S. V. Susina, R. F. Voigt, G. L. Webster

**Butler University College of Pharmacy:**  
D. W. Doerr, K. L. Kaufman, William Lucas, J. W. Martin, D. B. Meyers, E. J. Rowe

**Purdue University School of Pharmacy:**  
G. S. Banker, P. F. Belcastro, W. F. Bousquet, J. E. Christian, G. E. Cwalina, H. G. DeKay, R. V. Evanson, Glenn L. Jenkins, W. V. Kessler, A. M. Knevel, T. S. Miya, E. Ramstad, G. J. Sperandio, G. K. W. Yim

**Drake University College of Pharmacy:**  
Byrl E. Benton, C. Boyd Granberg, Wendell H. Southard

**State University of Iowa College of Pharmacy:**  
Seymour Blaug, David Carew, Jose Gallardo, Wendle L. Kerr, W. W. Tester, Vern Thudium, Louis C. Zopf

**University of Kansas School of Pharmacy:**  
Raymond Hopponen, Mathias Mertes, J. A. Reese, Edward Smissman, Duane Wenzel

**University of Kentucky College of Pharmacy:**  
N. H. Franke, Howard Hopkins, C. T. Lesshaft, Jr., R. E. Orth, Paul Parker, H. A. Smith

**Loyola University New Orleans College of Pharmacy:**  
Edward J. Ireland, Peter Ratto, Josephine M. Seragusa

**Northeast Louisiana State College School of Pharmacy:**  
Joseph H. Kern

**Xavier University College of Pharmacy:**  
Lawrence F. Ferring

**University of Maryland School of Pharmacy:**  
B. Olive Cole, Norman J. Doorenbos, Noel E. Foss

**Massachusetts College of Pharmacy:**  
R. N. Duvall, J. T. Fay, William Foye, H. J. Jenkins, W. E. Lange, James Mickles, H. C. Newton, H. L. Reed, M. J. Stocklosa

**New England College of Pharmacy:**  
K. J. Ballard, R. E. Brillhart, O. J. Inashima, L. C. Keagle, B. N. Patel, H. C. Raubenheimer, Elliot Spector

**Ferris Institute Division of Pharmacy:**  
Edward P. Claus, Robert J. DiCenzo, Harry S. Swartz, Jr.

**University of Michigan College of Pharmacy:**  
Alex Berman, J. H. Burckhalter, R. A. Deno, D. E. Francke, J. E. Goyan, A. M. Mattocks, T. D. Rowe, J. E. Sinzheimer

**Wayne State University College of Pharmacy:**  
Harold E. Bailey, William L. Blockstein, Richard K. Mulvey, Stephen Wilson

**University of Minnesota College of Pharmacy:**  
Frank E. DiGangi, Ole Gisvold, George P. Hager, Charles V. Netz

**University of Mississippi School of Pharmacy:**  
E. L. Hammond, W. L. Nobles

**St. Louis College of Pharmacy and Allied Sciences:**  
B. A. Barnes, Gerald Henney, F. L. Mercer, J. R. McCowan, R. H. Schleif, J. R. Thayer

**University of Kansas City School of Pharmacy:**  
L. L. Eisenbrandt, Victor Lotti, J. L. McMahon, W. J. Rost, P. M. Scott, Warren Tuttle

**Montana State University School of Pharmacy:**  
Gordon H. Bryan, John L. Wailes

**Creighton University School of Pharmacy:**  
S. S. Ahsan, J. M. Crampton, S. J. Greco, G. D. Redman, T. J. Speaker

**University of Nebraska College of Pharmacy:**  
J. B. Burt, L. D. Small, Robert D. Gibson, Witold Saski

**Rutgers—The State University College of Pharmacy:**  
R. A. Bowers, J. M. Cross, Michael Iannarone, R. G. Kedersha, J. L. Voigt

**University of New Mexico College of Pharmacy:**  
Elmon L. Cataline

**Columbia University College of Pharmacy:**  
E. E. Leuallen, L. A. Malspeis, J. N. McDonnell

**Fordham University College of Pharmacy:**  
Albert J. Sica, Rev. Charles T. Taylor, S.J.

**Long Island University Brooklyn College of Pharmacy:**  
Philip Blank, L. D. Fonda, Leo Greenberg, P. C. Olsen, H. H. Schaefer, A. G. Zupko

**St. John's University College of Pharmacy:**  
A. J. Bartilucci, J. J. Sciarra

**Union University Albany College of Pharmacy:**  
Francis J. O'Brien, H. Russell Denegar

**University of Buffalo School of Pharmacy:**  
Gerhard Levy, L. D. Lockie, D. H. Murray

**University of North Carolina School of Pharmacy:**  
Claude Piantadosi, Herman O. Thompson, Fred T. Semeniuk

**North Dakota State University School of Pharmacy:**  
Clifton E. Miller, Muriel C. Vincent

**Ohio Northern University College of Pharmacy:**  
Oscar Araujo, Anna Koffler, Charles O. Lee, Albert C. Smith, David Yoder

**Ohio State University College of Pharmacy:**  
J. L. Beal, E. P. Guth, L. E. Harris, L. M. Parks

**University of Cincinnati College of Pharmacy:**  
Melvin B. Hoevel, Joseph F. Kowalewski

**University of Toledo College of Pharmacy:**  
H. C. Ansel, Joseph Judis, C. H. Larwood, W. D. Roll, R. J. Schembach

**Southwestern State College School of Pharmacy:**  
Walter L. Dickison, Howard E. Mossberg

**University of Oklahoma College of Pharmacy:**  
Ralph Bienfang, Jean Brown, Ralph W. Clark

**Oregon State University School of Pharmacy:**  
R. S. McCutcheon, H. Schultz

**Duquesne University School of Pharmacy:**

J. G. Adams, J. A. Feldman, A. C. Neva,  
J. S. Ruggiero

**Philadelphia College of Pharmacy and Science:**

Robert E. Abrams, Martin Barr, Elsa  
Ehrenstein, Herbert Flack, L. F. Tice

**Temple University School of Pharmacy:**

F. H. Eby, R. F. Gautieri, C. F. Peterson,  
J. B. Sprowls, M. E. Tuckerman

**University of Pittsburgh School of Pharmacy:**

J. A. Bianculli, J. W. Boenigk, J. P. Buck-  
ley, N. R. Farnsworth, R. A. Heiser, W. J.  
Kinnard, J. D. McEvilla, P. J. Wurdack

**University of Puerto Rico College of Phar-  
macy:**

Luis Torres-Diaz

**University of Rhode Island College of  
Pharmacy:**

S. A. Bolton, J. J. Defeo, G. E. Osborne,  
E. R. Rand, P. E. Smith, D. P. N. Tsao,  
H. W. Youngken, Jr.

**Medical College of South Carolina School  
of Pharmacy:**

William H. Golod, J. Hampton Hoch, Wil-  
liam A. Prout

**University of South Carolina School of  
Pharmacy:**

R. W. Morrison, J. M. Plaxco, Jr.

**South Dakota State College Division of  
Pharmacy:**

Floyd J. LeBlanc

**University of Tennessee College of Pharmacy:**

L. E. Bingenheimer, G. C. Bowles, S. D.  
Feurt, M. E. Hamner, W. B. Swafford

**Texas Southern University School of Phar-  
macy:**

Edward J. Eugene, Eugene Hickman, Sr.

**University of Houston College of Pharmacy:**

Noel M. Ferguson

**University of Texas College of Pharmacy:**

John Autian, R. G. Brown, H. M. Burlage,  
J. N. Delgado, V. A. Green, W. L. Guess,  
E. J. W. Hall, F. V. Lofgren, L. R. Parker,  
Harold Powell, L. F. Worrell

**University of Utah College of Pharmacy:**

L. David Hiner, R. V. Petersen, Ewart A.  
Swinyard

**Medical College of Virginia School of  
Pharmacy:**

W. H. Hartung, W. J. O'Malley, Anthony  
Simonelli, R. M. Ware, Jr., W. E. Weaver

**Washington State University School of  
Pharmacy:**

V. N. Bhatia, G. B. Fink, M. R. Gibson,  
J. K. Guillory, T. D. Sokoloski, A. I. White

**University of Washington College of  
Pharmacy:**

L. R. Brady, Louis Fischer, J. E. Orr,  
E. M. Plein, L. W. Rising, Theodore  
Taniguchi, V. E. Tyler, Jr.

**West Virginia University College of  
Pharmacy:**

Charles W. Blissitt, J. Lester Hayman

**University of Wisconsin School of Pharmacy:**

J. G. Cannon, W. J. Durant, Stuart Erik-  
son, Per Finholt, Robert W. Hammel,  
Takeru Higuchi, W. I. Higuchi, S. M.  
Kupchan, A. P. Lemberger, Leonard Saun-  
ders, G. A. Sonnedeker, E. W. Stieb,  
Richard Strommen, A. H. Uhl

**University of Wyoming College of Pharmacy:**

David W. O'Day, William E. Johnson

**AFFILIATE MEMBERS—Canada**

**University of British Columbia Faculty of  
Pharmacy:**

A. W. Matthews

**University of Alberta Faculty of Pharmacy:**

M. J. Huston



# INSTITUTIONS HOLDING MEMBERSHIP IN THE AMERICAN ASSOCIATION OF COLLEGES OF PHARMACY

## ALABAMA

School of Pharmacy  
Auburn University (1905)\*  
Auburn  
Dean Samuel T. Coker

Division of Pharmacy  
Howard College (1952)  
800 Lakeshore Drive  
Birmingham 9  
Director Woodrow R. Byrum

## ARIZONA

College of Pharmacy  
University of Arizona (1952)  
Tucson 11  
Dean Willis R. Brewer

## ARKANSAS

School of Pharmacy  
University of Arkansas (1952)  
4301 West Markham  
Little Rock  
Dean Stanley G. Mittelstaedt

## CALIFORNIA

School of Pharmacy  
University of the Pacific (1960)  
Stockton  
Dean Ivan W. Rowland

School of Pharmacy  
University of California Medical Center  
(1942)  
San Francisco 22  
Dean Troy C. Daniels

School of Pharmacy  
University of Southern California (1918)  
University Park  
Los Angeles 7  
Dean Alvah G. Hall

## COLORADO

School of Pharmacy  
University of Colorado (1921)  
Boulder  
Dean Curtis H. Waldon

\*Denotes year institution was admitted to the Association.

## CONNECTICUT

School of Pharmacy  
University of Connecticut (1935)  
Box U-92  
Storrs  
Dean Harold G. Hewitt

## DISTRICT OF COLUMBIA

School of Pharmacy  
George Washington University (1900)  
2128 H Street, N.W.  
Washington 6  
Assistant Dean Robert M. Leonard

College of Pharmacy  
Howard University (1926)  
2300 4th Street, N.W.  
Washington 1  
Dean Chauncey I. Cooper

## FLORIDA

School of Pharmacy  
Florida Agricultural and Mechanical  
University (1954)  
Tallahassee  
Dean Howard McClain, Jr.

College of Pharmacy  
University of Florida (1925)  
Gainesville  
Dean Perry A. Foote

## GEORGIA

Southern College of Pharmacy  
Mercer University (1948)  
223 Walton Street, N.W.  
Atlanta 3  
Dean Oliver M. Littlejohn

School of Pharmacy  
University of Georgia (1928)  
Athens  
Dean Kenneth L. Waters

## IDAHO

College of Pharmacy  
Idaho State College (1927)  
Pocatello  
Dean Laurence E. Gale

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**ILLINOIS**

College of Pharmacy  
University of Illinois (1900)  
833 South Wood Street  
Chicago 12  
Dean George L. Webster

**INDIANA**

College of Pharmacy  
Butler University (1927)  
4600 Sunset Boulevard  
Indianapolis 7  
Dean Karl L. Kaufman

School of Pharmacy  
Purdue University (1901)  
Lafayette  
Dean Glenn L. Jenkins

**IOWA**

College of Pharmacy  
Drake University (1942)  
25th and University  
Des Moines 11  
Dean Byrl E. Benton

College of Pharmacy  
State University of Iowa (1901)  
Capitol Street  
Iowa City  
Dean Louis C. Zopf

**KANSAS**

School of Pharmacy  
University of Kansas (1900)  
Lawrence  
Dean J. Allen Reese

**KENTUCKY**

College of Pharmacy  
University of Kentucky (1900)  
Washington and Gladstone  
Lexington  
Dean Earl P. Slone

**LOUISIANA**

New Orleans College of Pharmacy  
Loyola University (1921)  
6363 St. Charles Avenue  
New Orleans 18  
Dean Edward J. Ireland

School of Pharmacy  
Northeast Louisiana State College (1957)  
4001 De Siard  
Monroe  
Dean Ralph M. Wilson

College of Pharmacy  
Xavier University (1923)  
7325 Palmetto  
New Orleans 25  
Dean Lawrence F. Ferring

**MARYLAND**

School of Pharmacy  
University of Maryland (1900)  
636 West Lombard Street  
Baltimore 1  
Dean Noel E. Foss

**MASSACHUSETTS**

Massachusetts College of Pharmacy (1900)  
179 Longwood Avenue  
Boston 15  
Dean Howard C. Newton  
New England College of Pharmacy (1952)  
70-72 Mount Vernon Street  
Boston 8  
Dean LeRoy C. Keagle

**MICHIGAN**

Division of Pharmacy  
Ferris Institute (1938)  
Science Hall  
Big Rapids  
Dean Edward P. Claus  
College of Pharmacy  
University of Michigan (1900)  
Ann Arbor  
Dean Tom D. Rowe  
College of Pharmacy  
Wayne State University (1925)  
171 Old Main Building  
Detroit 2  
Dean Stephen Wilson

**MINNESOTA**

College of Pharmacy  
University of Minnesota (1901)  
Minneapolis 14  
Dean George P. Hager

**MISSISSIPPI**

School of Pharmacy  
University of Mississippi (1913)  
University  
Dean Charles W. Hartman

**MISSOURI**

St. Louis College of Pharmacy  
and Allied Sciences (1900)  
4588 Parkview Place  
St. Louis 10  
Dean James R. Thayer  
School of Pharmacy  
University of Kansas City (1948)  
5100 Rockhill Road  
Kansas City 10  
Dean Leslie L. Eisenbrandt

**MONTANA**

School of Pharmacy  
Montana State University (1917)  
Missoula  
Dean Robert L. Van Horne

**NEBRASKA**

School of Pharmacy  
Creighton University (1916)  
1406 Davenport Street  
Omaha 2  
Dean Salvatore J. Greco  
College of Pharmacy  
University of Nebraska (1913)  
Lincoln 8  
Dean Robert D. Gibson

**NEW JERSEY**

College of Pharmacy  
Rutgers—The State University (1923)  
1 Lincoln Avenue  
Newark 4  
Dean Roy A. Bowers

**NEW MEXICO**

College of Pharmacy  
University of New Mexico (1952)  
Albuquerque  
Dean Elmon L. Cataline

**NEW YORK**

College of Pharmacy of the City of  
New York  
Columbia University (1939)  
115 West 68th Street  
New York 23  
Dean E. Emerson Leuallen  
College of Pharmacy  
Fordham University (1939)  
Bronx 58  
Dean Albert J. Sica  
Brooklyn College of Pharmacy  
Long Island University (1939)  
600 Lafayette Avenue  
Brooklyn 16  
Dean Arthur G. Zupko  
College of Pharmacy  
St. John's University (1951)  
Grand Central and Utopia Parkways  
Jamaica 32  
Dean Andrew J. Bartilucci  
Albany College of Pharmacy  
Union University (1945)  
106 New Scotland Avenue  
Albany 3  
Dean Francis J. O'Brien  
School of Pharmacy  
University of Buffalo (1939)  
Buffalo 14  
Dean Daniel H. Murray

**NORTH CAROLINA**

School of Pharmacy  
University of North Carolina (1917)  
Box 629  
Chapel Hill  
Dean Edward A. Brecht

**NORTH DAKOTA**

School of Pharmacy  
The North Dakota State University (1922)  
Fargo  
Dean Clifton E. Miller

**OHIO**

College of Pharmacy  
Ohio Northern University (1925)  
500-600 South Main Street  
Ada  
Dean Albert C. Smith  
College of Pharmacy  
Ohio State University (1900)  
1958 Neil Avenue  
Columbus 10  
Dean Lloyd M. Parks  
College of Pharmacy  
University of Cincinnati (1947)  
Cincinnati 21  
Dean Joseph F. Kowalewski  
College of Pharmacy  
University of Toledo (1941)  
2801 West Bancroft Street  
Toledo 6  
Dean Charles H. Larwood

**OKLAHOMA**

School of Pharmacy  
Southwestern State College (1951)  
Weatherford  
Dean W. D. Strother  
College of Pharmacy  
University of Oklahoma (1905)  
Norman  
Dean Ralph W. Clark

**OREGON**

School of Pharmacy  
Oregon State University (1915)  
Corvallis  
Dean Charles O. Wilson

**PENNSYLVANIA**

School of Pharmacy  
Duquesne University (1927)  
901 Vickroy Street  
Pittsburgh 19  
Dean John S. Ruggiero  
Philadelphia College of Pharmacy and  
Science (1900)  
43rd Street, Kingsessing and  
Woodland Avenues  
Philadelphia 4  
Dean Linwood F. Tice  
School of Pharmacy  
Temple University (1928)  
3223 North Broad Street  
Philadelphia 40  
Dean Joseph B. Sprowls

*American Journal of Pharmaceutical Education*

School of Pharmacy  
Schools of the Health Professions  
University of Pittsburgh (1900)  
3550 Terrace Avenue  
Pittsburgh 19  
Acting Dean Joseph A. Bianculli

**PHILIPPINES**

College of Pharmacy  
University of the Philippines (1917)  
Quezon City  
Dean Patrocinio Valenzuela

**PUERTO RICO**

College of Pharmacy  
University of Puerto Rico (1925)  
Rio Piedras  
Dean Luis Torres-Diaz

**RHODE ISLAND**

College of Pharmacy  
University of Rhode Island (1958)  
Kingston  
Dean Heber W. Youngken, Jr.

**SOUTH CAROLINA**

School of Pharmacy  
Medical College of South Carolina (1940)  
16 Lucas Street  
Charleston 16  
Dean William A. Prout

School of Pharmacy  
University of South Carolina (1928)  
Columbia 19  
Dean Robert W. Morrison

**SOUTH DAKOTA**

Division of Pharmacy  
South Dakota State College (1908)  
Brookings  
Dean Floyd J. LeBlanc

**TENNESSEE**

College of Pharmacy  
University of Tennessee (1914)  
874 Union Avenue  
Memphis 3  
Dean Seldon D. Feurt

**TEXAS**

School of Pharmacy  
Texas Southern University (1952)  
3201 Wheeler Avenue  
Houston 4  
Dean Edward J. Eugene

College of Pharmacy  
University of Houston (1952)  
3801 Cullen Boulevard  
Houston 4  
Dean Noel M. Ferguson

College of Pharmacy  
University of Texas (1926)  
Austin 12  
Dean Henry M. Burlage

**UTAH**

College of Pharmacy  
University of Utah (1951)  
Salt Lake City 1  
Dean L. David Hiner

**VIRGINIA**

School of Pharmacy  
Medical College of Virginia (1908)  
Richmond 19  
Dean Warren E. Weaver

**WASHINGTON**

School of Pharmacy  
Washington State University (1912)  
Pullman  
Dean Allen I. White  
  
College of Pharmacy  
University of Washington (1903)  
Seattle 5  
Dean Jack E. Orr

**WEST VIRGINIA**

School of Pharmacy  
West Virginia University (1920)  
Medical Center  
Morgantown  
Dean R. O. Bachmann

**WISCONSIN**

School of Pharmacy  
University of Wisconsin (1900)  
Madison 6  
Dean Arthur H. Uhl

**WYOMING**

College of Pharmacy  
University of Wyoming (1951)  
Laramie  
Dean David W. O'Day

**AFFILIATE MEMBERS**

**CANADA**

Faculty of Pharmacy  
University of Toronto (1958)  
46 Gerrard Street East  
Toronto 2, Ontario  
Dean F. N. Hughes

Faculty of Pharmacy  
University of British Columbia (1958)  
Vancouver 8, British Columbia  
Dean A. W. Matthews

Faculty of Pharmacy  
University of Alberta (1959)  
Edmonton, Alberta  
Dean M. J. Huston

## PAST PLACES OF MEETING AND PAST OFFICERS, AACP

### PLACES OF MEETING

1. Richmond, Va., May 8-10, 1900
2. St. Louis, Mo., September 19-20, 1901
3. Philadelphia, Pa., September 12-15, 1902
4. Mackinac Island, Mich., August 3-5, 1903
5. Kansas City, Mo., September 7-8, 1904
6. Atlantic City, N.J., September 5-7, 1905
7. Indianapolis, Ind., September 5-6, 1906
8. New York, N.Y., September 4-5, 1907
9. Hot Springs, Ark., September 8-10, 1908
10. Los Angeles, Calif., August 17-18, 1909
11. Richmond, Va., May 4-5, 1910
12. Boston, Mass., August 16-17, 1911
13. Denver, Colo., August 20-22, 1912
14. Nashville, Tenn., August 20-21, 1913
15. Detroit, Mich., August 25-26, 1914
16. San Francisco, Calif., August 6-7, 1915
17. Philadelphia, Pa., September 1-2, 1916
18. Indianapolis, Ind., August 27-28, 1917
19. Chicago, Ill., August 12-13, 1918
20. New York, N.Y., August 25-27, 1919
21. Washington, D.C., May 5-6, 1920
22. New Orleans, La., September 5-6, 1921
23. Cleveland, Ohio, August 14-15, 1922
24. Asheville, N.C., September 3-4, 1923
25. Buffalo, N.Y., August 25-26, 1924
26. Des Moines, Iowa, August 24-25, 1925
27. Philadelphia, Pa., September 13-14, 1926
28. St. Louis, Mo., August 22-23, 1927
29. Portland, Me., August 20-21, 1928
30. Rapid City, S.D., August 26-27, 1929
31. Baltimore, Md., May 5-6, 1930
32. Miami, Fla., July 27-28, 1931
33. Toronto, Canada, August 22-23, 1932
34. Madison, Wis., August 28-29, 1933
35. Washington, D.C., May 7-8, 1934
36. Portland, Ore., August 5-6, 1935
37. Dallas, Texas, August 24-25, 1936
38. New York, N.Y., August 16-17, 1937
39. Minneapolis, Minn., August 22-23, 1938
40. Atlanta, Ga., August 21-22, 1939
41. Richmond, Va., May 6-7, 1940
42. Detroit, Mich., August 18-19, 1941
43. Denver, Colo., August 17-18, 1942
44. Columbus, Ohio, September 9-10, 1943
45. Cleveland, Ohio, September 7-8, 1944
46. Washington, D.C., (Executive Committee only), November 8-10, 1945
47. Pittsburgh, Pa., August 25-27, 1946
48. Milwaukee, Wis., August 24-25, 1947
49. San Francisco, Calif., August 8-10, 1948
50. Jacksonville, Fla., April 24-26, 1949
51. Atlantic City, N.J., April 29-May 2, 1950
52. Buffalo, N.Y., August 26-28, 1951
53. Philadelphia, Pa., August 21-22, 1952
54. Salt Lake City, Utah, August 16-18, 1953
55. Boston, Mass., August 22-24, 1954
56. Miami Beach, Fla., May 1-3, 1955
57. Detroit, Mich., April 8-10, 1956
58. New York, N.Y., April 28-30, 1957
59. Los Angeles, Calif., April 20-22, 1958
60. Cincinnati, Ohio, August 15-18, 1959
61. Boulder, Colo., July 3-4, 1960
62. Chicago, Ill., April 23-25, 1961

### PAST OFFICERS OF THE ASSOCIATION

#### Presidents

*Albert A. Prescott.....	1900-01	*Wilbur J. Teeters.....	1920-21
*Joseph P. Remington.....	1901-02	*Clair A. Dye.....	1921-22
*Edward Kremers.....	1902-03	*Charles H. LaWall.....	1922-23
*Henry K. Rusby.....	1903-04	*Charles W. Johnson.....	1923-24
*George B. Kauffman.....	1904-05	*Washington H. Zeigler.....	1924-25
*Henry M. Whelpley.....	1905-06	Edward H. Kraus.....	1925-26
*James H. Beal.....	1906-07	*David B. R. Johnson.....	1926-27
*John T. McGill.....	1907-08	*Edward Spease.....	1927-28
*Henry P. Hunson.....	1908-09	*Andrew G. DuMez.....	1928-29
*William M. Searby.....	1909-10	*J. Grover Beard.....	1929-30
*Julius O. Schlotterbeck.....	1910-12	*Julius W. Sturmer.....	1930-31
*Albert O. Clark.....	1912-13	*Townes R. Leigh.....	1931-32
*Albert Schneider.....	1913-14	*Charles H. Stocking.....	1932-33
*Frederick J. Wulling.....	1914-15	*L. D. Havenhill.....	1933-34
*Harry V. Army.....	1915-16	Ernest Little.....	1934-35
*Rufus A. Lyman.....	1916-17	Robert C. Wilson.....	1935-36
*Henry Kraemer.....	1917-18	*Theodore J. Bradley.....	1936-37
*Charles B. Jordan.....	1918-19		
*Wortley F. Rudd.....	1919-20		

\*Deceased



# American Journal of Pharmaceutical Education

*William G. Crockett.....	1936-37	*Bernard V. Christensen.....	1949-50
*Hugh C. Muldoon.....	1937-38	Hugo H. Schaefer.....	1950-51
*Earl R. Serles.....	1938-39	J. Allen Reese.....	1951-52
Charles H. Rogers.....	1939-40	Troy C. Daniels.....	1952-53
*H. Evert Kendig.....	1940-41	Edward C. Reif.....	1953-54
Rudolph A. Kuever.....	1941-42	Joseph B. Burt.....	1954-55
Howard C. Newton.....	1942-43	Linwood F. Tice.....	1955-56
Forest J. Goodrich.....	1943-44	Harold G. Hewitt.....	1956-57
Glenn L. Jenkins.....	1944-46	Thomas D. Rowe.....	1957-58
Henry S. Johnson.....	1946-47	Louis C. Zopf.....	1958-59
Arthur H. Uhl.....	1947-48	Charles W. Bliven.....	1959-60
J. Lester Hayman.....	1948-49	Henry M. Burlage.....	1960-61
<b>Vice Presidents</b>			
*Joseph P. Remington.....	1900-01	Edward D. Davy.....	1931-32
*Edward Kremers.....	1901-02	Robert C. Wilson.....	1932-33
*Henry H. Rusby.....	1902-03	Ernest Little.....	1933-34
*George B. Kauffman.....	1903-04	Antone O. Mickelsen.....	1934-35
*C. Lewis Diehl.....	1904-06	Homer C. Washburn.....	1935-36
*John T. McGill.....	1906-07	*William G. Crockett.....	1936-37
*Clement B. Lowe.....	1907-08	Elmer L. Hammond.....	1937-38
*Alviso B. Stevens.....	1908-09	James M. Dille.....	1938-39
*Elie H. LaPierre.....	1909-10	*Marion L. Jacobs.....	1939-40
*Wilbur J. Teeters.....	1910-11	Eugene O. Leonard.....	1940-41
*Albert H. Clark.....	1911-12	Perry A. Foote.....	1941-42
*Albert Schneider.....	1912-13	A. B. Lemon.....	1942-43
*Edsel A. Ruddiman.....	1913-14	Henry S. Johnson.....	1943-44
*Harry V. Arny.....	1914-15	*Gordon L. Curry.....	1944-46
*Rufus A. Lyman.....	1915-16	*William F. Sudro.....	1946-47
*Theodore J. Bradley.....	1916-17	*John F. McCloskey.....	1947-48
*Charles E. Caspari.....	1917-18	J. Allen Reese.....	1948-49
William Mansfield.....	1918-19	Thomas D. Rowe.....	1949-50
*Julius A. Koch.....	1919-20	Harold G. Hewitt.....	1950-51
*Washington H. Zeigler.....	1920-21	Troy C. Daniels.....	1951-52
*Evander F. Kelly.....	1921-22	L. David Hiner.....	1952-53
*Charles H. Stocking.....	1922-23	Kenneth L. Waters.....	1953-54
*Edward V. Howell.....	1923-24	Chauncey I. Cooper.....	1954-55
Robert P. Fischelis.....	1924-25	Francis J. O'Brien.....	1955-56
*J. Grover Beard.....	1925-26	Thomas D. Rowe.....	1956-57
*Andrew G. DuMez.....	1926-27	*John F. McCloskey.....	1957-58
Henry M. Faser.....	1927-28	Charles W. Bliven.....	1958-59
Charles E. F. Mollett.....	1928-29	Henry M. Burlage.....	1959-60
*Earl R. Serles.....	1929-30	Lloyd M. Parks.....	1960-61
*Henry A. Langenham.....	1930-31		
<b>Secretary-Treasurers</b>			
*Wymond H. Bradbury.....	1900-01	*Zada M. Cooper.....	1922-42
*Wilbur L. Scoville.....	1901-04	Clark T. Eidsmoe.....	1942-47
*Julius O. Schlotterbeck.....	1904-08	Louis C. Zopf.....	1947-53
*George C. Dickman.....	1908-10	Richard A. Deno.....	1953-56
*Charles W. Johnson.....	1910-13	George L. Webster.....	1956-60
*Wilbur J. Teeters.....	1913-17	Charles W. Bliven.....	1960-
*Theodore J. Bradley.....	1917-22		
<b>Chairmen of the Executive Committee</b>			
*James H. Beal.....	1900-03	Ernest Little.....	1936-41
*Henry M. Whelpley.....	1903-05	Charles H. Rogers.....	1941-43
*William A. Puckner.....	1905-08	*Bernard V. Christensen.....	1943-48
*Julius A. Koch.....	1908-19	Joseph B. Burt.....	1948-53
*Henry Kraemer.....	1919-20	Louis C. Zopf.....	1953-58
*Rufus A. Lyman.....	1920-23	Harold G. Hewitt.....	1958-
*Charles B. Jordan.....	1923-36		

**CONSTITUTION AND BYLAWS**  
**OF THE AMERICAN**  
**ASSOCIATION OF COLLEGES OF PHARMACY**  
(FORMERLY THE AMERICAN CONFERENCE OF PHARMACEUTICAL FACULTIES)

**CONSTITUTION**

**Article I. Name.** This organization shall be known as the American Association of Colleges of Pharmacy.

**Article II. Object.** The object of the Association shall be to promote pharmaceutical education and research.

**Article III. Membership.** The membership of the Association shall consist of the colleges of pharmacy represented by delegates at the organization meeting of the American Conference of Pharmaceutical Faculties held at Richmond, Virginia, in 1900, and of such other colleges of pharmacy as may at any time be admitted to membership.

The title, college of pharmacy, shall be interpreted as meaning an incorporated college of pharmacy, or a school, college or department of pharmacy in a state university, or in a regularly incorporated or legally empowered educational institution.

Membership in the Association shall consist of three types, active members, associate members, and affiliate members.

Active members shall meet in full all of the qualifications for membership as stated in Article I of the Bylaws.

Associate members shall meet all of the qualifications for membership as stated in Article I of the Bylaws except the requirements of Section 1 and 2 concerning minimum length of operation and accreditation. Associate membership shall be limited to a term of not more than five years. Associate members, or their delegates, shall have all the privileges and responsibilities of

active members, including the payment of dues, except the right to vote in the transactions and to hold elective office in the Association.

Affiliate membership shall be open to Canadian colleges of pharmacy which meet the minimum standards of the Canadian Conference of Pharmaceutical Faculties and to other colleges of pharmacy outside the continental limits of the United States which meet the qualifications for membership as stated in Article I of the Bylaws, except the requirements of Sections 1, 2, 6, 7, 8. Affiliate members, or their delegates, shall have all the privileges and responsibilities of active members, including the payment of dues, except the right to vote in the transactions and to hold elective office in the Association.

The Association may elect a person to honorary individual membership at a regular annual meeting by a two-thirds vote of the total member colleges as a reward for long and faithful service or for some outstanding contribution to pharmaceutical education. Honorary members shall not be eligible to hold office or to vote.

**Article IV. Election of Members.** A college of pharmacy may, upon recommendation of the Executive Committee, be elected to membership in the Association at a regular annual meeting by a vote of two-thirds of the total membership of the Association.

If a majority of the member colleges represented at a regular annual meeting of the Association vote in favor of a candidate's admission, but if the affirm-

ative vote is less than two-thirds of the total membership, the votes of member colleges not represented at said meeting shall be taken by mail.

**Article V. Voting Body.** Each active member college shall be entitled to one voting delegate and to one vote in the transactions of the Association. All of the properly accredited delegates of any member college, active, associate, or affiliate shall have the right to engage in debate upon any question.

**Article VI. Quorum.** Thirty voting delegates shall constitute a quorum for the transaction of business at any meeting.

**Article VII. Officers.** The officers of the Association shall be a president, a vice president, an executive secretary-treasurer, and a chairman of the Executive Committee. The president, vice president, and chairman of the Executive Committee shall be elected by ballot and shall hold their respective offices for one year or until their successors are elected and installed. At least two nominees for the office of vice president shall be submitted for balloting. The executive secretary-treasurer shall be elected by the Executive Committee for a term of three years.

The vice president shall succeed automatically to the office of president upon the death or incapacity of the president or upon the election of his successor as vice president, and in the last-named instance he shall be installed, along with the newly elected officers, at the final session of each annual meeting.

The president, or in his absence the vice president, shall preside at all meetings of the Association, shall present an annual address, shall appoint committees, and shall perform such other duties as pertain to the office of president.

The editor of the *American Journal of Pharmaceutical Education* shall be

elected by the Executive Committee and shall hold his office for one year or until his successor is elected and installed.

In the event of the death or other inability of any officer other than the president, the interim succession of the officers shall be directed by the Executive Committee.

**Article VIII. Executive Committee.** The Executive Committee shall consist of a chairman, the president, the vice president, and the immediate past president of the Association, and four accredited delegates, two of whom shall be elected each year from at least four nominees, and who shall hold office for two years. The executive secretary-treasurer shall be a member of the Committee ex officio without vote.

**Article IX. Meetings.** The Association shall hold one regular annual meeting at a time and place to be determined by the Executive Committee, preferably at the same place and coincident with the annual meeting of the American Pharmaceutical Association.

**Article X. Mail Vote.** Any question or item of business, except the election of a college to membership and the amendment of this Constitution, may be submitted through the Executive Committee to a vote of the Association by mail during the interim between meetings.

**Article XI. Amendments.** Any proposal to alter or amend this Constitution shall be referred to the Committee on Constitution and Bylaws for suitable wording which clearly expresses the intent of the proposal and which is consistent with other sections of the Constitution. It shall then be submitted in writing to the chairman of the Executive Committee not later than forty days prior to the annual meeting of the Association, and a copy of such proposed

alteration or amendment shall be mailed by the chairman to each member college not later than thirty days prior to the said annual meeting. Such alteration or amendment shall, upon receiving at a regular annual meeting a two-thirds majority vote of the total active membership, become a part of the Constitution.

If a majority of the member colleges represented at a regular annual meeting vote in favor of such alteration or amendment, but if the affirmative vote is less than two-thirds of the total membership, the votes of the member colleges not represented at said meeting shall be taken by mail.

## BYLAWS

### Article I. Qualifications for Admission to, and Membership in the American Association of Colleges of Pharmacy.

#### 1. Minimum Length of Period of Operation.

The college must have functioned as a teaching institution for a sufficient length of time to have its full curriculum in operation prior to the date of making application for membership.

#### 2. Accreditation.

The college shall be accredited by the American Council on Pharmaceutical Education.

#### 3. Finances.

A college shall be adequately financed and should have an appreciable source of income in addition to student fees.

#### 4. Organization and Administrative Policy.

- a. No college shall be admitted to membership if it is conducted for profit, either to individuals or to a corporation, whether in the form of unduly large salaries, or rentals, etc., or of profit for direct distribution.

- b. The college must be headed by a dean or other executive officer whose authority is delegated to him by the regents, trustees, or directors in order that the dean may definitely have the responsibility for the proper operation of the college.

#### 5. Faculty and Teaching Staff.

The college must possess a faculty which is sufficient in numbers and the members of which possess the qualifications needed to properly carry on the work undertaken by the college.

#### 6. Minimum Admission Requirements and Admission to Advanced Standing.

The minimum admission requirements and the requirements for admission to advanced standing as stipulated by the American Council on Pharmaceutical Education shall be met.

#### 7. Curriculum and Degrees.

- a. Instruction shall be given within a period of not less than four full college years of at least thirty-two weeks each, and shall be scheduled over a minimum of five days per week. On and after April 1, 1965, each member college shall require of each candidate for a degree in pharmacy, completion of not less than five full academic years of training, including both prepharmacy instruction and a minimum of three years of professional instruction.
- b. Only a baccalaureate degree or baccalaureate degrees may be awarded for the completion of the curriculum described in 7a of this Article. The preferred degree is either Bachelor of Science in Pharmacy (B.S. in Phar.) or Bachelor of Phar-



macy (B. Phar.). If the candidate for a degree in pharmacy meets the institutional requirement for either the Bachelor of Science (B.S. or S.B.) or Bachelor of Arts (B.A. or A.B.) degree, prior to or at the time of the completion of the prescribed curriculum in pharmacy, nothing in this paragraph shall be interpreted as being critical of or opposed to the granting of such a degree in lieu of or in addition to one of the preferred degrees.

**8. Reports Required.**

- a. Each year, within thirty days after the spring commencement, the college shall send to the chairman of the Executive Committee the names of all persons on whom degrees have been conferred during the year together with the degree awarded in each instance, including honorary degrees. The names of men and women shall be identified as such and listed separately.
- b. Each year, within thirty days after the spring commencement, the college shall prepare a complete list of all students who have not been previously reported, including the names of those who have withdrawn prior to the compilation of the list and indicating the fact of their withdrawal. The following information shall be given for each student listed: (1) Secondary education, stated by extent in months or in counts, and a statement as to whether the school was accredited; (2) A statement as to whether the student was admitted by certification or by examination;

(3) Previous collegiate training, if any, showing the extent in years, whether in an academic or professional college, any degree or degrees conferred; and (4) The class standing accorded the student in the college of pharmacy (freshman, sophomore, junior, or senior). Such lists shall be certified by the proper officer of the college or university, seal attached, and sent to the chairman of the Executive Committee. The names of men and women shall be identified as such and listed separately.

**9. Equipment and Teaching Facilities.**

The colleges shall possess or have unrestricted privileges in the use of classrooms and laboratories sufficient in number and in size to accommodate in a satisfactory way the number of classes or sections of classes of the size usual to the college, and such classrooms and laboratories shall be furnished with sufficient equipment and apparatus to meet in an adequate manner the requirements of all experimental work of the courses taught therein.

**10. Extracurricular Activities.**

An important requirement for membership in the Association is that a college, or institution of which it is a part, shall foster and supervise desirable extracurricular activities. Membership in national and state associations for the advancement of pharmaceutical education, the organization of a student branch of the American Pharmaceutical Association or the pharmaceutical association of the state in which the college is located, the exercise of supervision over fraternities, entertainments, athletics, etc., will be considered in determining if the Association's requirement in this regard is being satisfactorily met.



**11. General Comment.**

The educational policy of the administration, the thoroughness of scholarship, the presence of the scientific spirit, the soundness and inspiration of instruction, the quality of publicity indulged in, conservatism in awarding honorary degrees—indeed, the general tone of the institution, including students as well as faculty—are important items concerning which definite regulations can hardly be established, but to which the Association will give consideration in arriving at its final decision with respect to the acceptability of a college of pharmacy for admission to membership.

**12. Suspension of Members.**

Should any member college be guilty of flagrant violation of the Association's regulations or requirements, the Executive Committee may, if deemed advisable, suspend such member college until its case can be formally acted upon at the next annual meeting of the Association.

**13. Changes in Qualifications for Membership.**

Any proposal to change qualifications for admission to or membership in the Association shall be referred to the Committee on Constitution and Bylaws for suitable wording which clearly expresses the intent of the proposal. It shall then be presented in the final wording in which it is to be voted on to the member colleges of the Association by mail at least four months prior to the subsequent annual meeting. Such change shall, upon receiving at a regular annual meeting a two-thirds majority vote of all member colleges voting on the proposal, be adopted.

**Article II. Fees and Dues.** The annual dues for active or associate membership in the Association shall be \$500.00. A college applying for active or associate membership in the Association shall pay an application fee of

\$25.00, which shall accompany the application. The annual dues for affiliate membership in the Association shall be \$50.00. No college shall be considered in good standing, and an active member college shall not be entitled to vote, unless all dues are paid, and a college which is in arrears for three years shall be dropped from membership.

**Article III. Right of Withdrawal.**

Any member college may withdraw from membership in the Association, after the payment of all dues which may be owing the Association, by giving written notification to the executive secretary-treasurer of the Association. The reason for withdrawal shall be presented to the Executive Committee at the next regular annual meeting. Consideration of the notice of withdrawal and action thereon shall be taken in executive session.

**Article IV. Discipline of Member Colleges.**

Any college holding membership in the Association may have charges brought against it for failure to comply in a satisfactory manner with the qualifications for membership as stated in Article I. Such charges must be made in writing and filed with the chairman of the Executive Committee at least thirty days prior to a regular annual meeting of the Association. Immediately after the filing of charges, the chairman of the Executive Committee shall furnish the college against which the charges are made, and each member of the Executive Committee, with a copy of the charges. The college against which the charges have been preferred shall be given a hearing before the Executive Committee at the time of the regular annual meeting.

**Article V. Executive Secretary-Treasurer.** The executive secretary-treasurer shall keep complete and accurate minutes of the meetings of the Association and perform such other

duties incident to the conduct of his office as may be required of him as secretary.

He shall also collect all fees and dues owing to the Association and shall be the custodian of the Association's funds, securities, etc., and shall cause to be deposited in the name of the Association all monies or other valuable effects in such banks, trust companies, or other depositories as shall be approved from time to time by the Executive Committee.

He shall make an annual report to the Association as secretary and, as treasurer, submit annually or whenever requested a complete and accurate statement of the financial condition of the Association.

**Article VI. Chairman of the Executive Committee.** The chairman of the Executive Committee shall preside at all meetings of the Executive Committee. In his absence, the Committee shall elect a temporary chairman.

He shall examine all applications for membership in the Association. If the information furnished by an applicant shall be regarded by him as satisfactory, he shall then present the application to the Executive Committee, which in turn shall make its recommendations to the Association at the next regular meeting.

He shall prepare an annual budget prior to the beginning of, and covering the fiscal year, August 1 to July 31, and submit it to the Executive Committee for approval along with his annual report on or before the date of the regular meeting.

**Article VII. Executive Committee.** The Executive Committee shall transact the business of the Association, in accordance with the Constitution and Bylaws, during the interim between meetings.

It shall make all necessary arrange-

ments for the annual meeting of the Association and shall examine the credentials of the delegates to the annual convention.

If, from investigation by the Executive Committee, it appears that any member college is not complying with the requirements for membership in the Association, it shall be the duty of the Executive Committee to submit to such college its findings, at least sixty days prior to the next regular annual meeting, and to report the same to the Association at the next regular meeting.

**Article VIII. Council on Conference of Teachers.** The Council on Conference of Teachers shall consist of six members, one to be elected by each of the five Sections of Teachers, viz., Sections of Teachers of (1) Pharmacy, (2) Pharmacy Administration, (3) Chemistry, (4) the Biological Sciences, and (5) Graduate Instruction. The sixth member shall be appointed by the president of the Association and shall serve for a term of one year. The elected members of the Council shall serve for terms of two years with the Sections of Teachers of Pharmacy and Pharmacy Administration electing members in even-numbered years, and the Sections of Teachers of Chemistry, Biological Sciences, and Graduate Instruction electing members in odd-numbered years. The six members of the Committee shall elect one of their number to act as chairman of the Council for a term of one year. The retiring chairman shall preside at a reorganization meeting of the new Council within not less than twenty-four hours after the close of the annual meeting of the Association.

The duties of the Council shall be (1) to define the scope and functions of the several Sections of Teachers of the Conference, (2) to provide for uniformity of procedure in the conduct of the several Sections of Teachers, and

(3) to transmit any recommendations emanating from the several Sections of Teachers to the Association.

Vacancies in the elected membership of the Council occurring in the interval between annual meetings shall be filled by the chairman of the particular Section of Teachers originally electing the member of the Council. The president of the Association shall appoint a member to fill the vacancy in the case of the appointed member.

**Article IX. Representatives on the American Council on Pharmaceutical Education.** The Executive Committee shall appoint three representatives to serve on the American Council on Pharmaceutical Education, each to serve for a term of six years. These appointments shall be made on the termination of office of the incumbents, one every two years. Only persons who are actively engaged in pharmaceutical education shall be eligible for appointment to the Council. In case of a vacancy due to death, resignation or other cause, the appointment shall be made for the length of the unexpired term of the representative whose position is vacated.

**Article X. Committee on Resolutions.** The Committee on Resolutions shall consist of five members appointed by the president in advance of the annual meeting of the Association. All resolutions presented to the Association, except those presented by the Executive Committee, shall be referred to the Committee on Resolutions for study and report, unless the Association specifically directs otherwise.

**Article XI. Committee Reports.** All committees shall present written reports. Verbal reports by committees shall not be accepted by the Association.

**Article XII. Representation at Meetings.** One voting delegate and an

alternate shall be elected by the faculty of each active member college and their credentials, together with those of all non-voting delegates of active, associate, and affiliate member colleges, shall be sent to the chairman of the Executive Committee not later than ten days before the date of the announced meeting. Any member college failing for three successive years to have one or more delegates at the annual meeting shall automatically lose its membership. These delegates must be directly connected with the institution as members of its teaching staff.

**Article XIII. Executive Sessions.** All proceedings and discussions as to the standing and qualifications of a member college or of the eligibility of a college to membership in the Association shall be conducted in executive session.

**Article XIV. Disbursement of Funds.** All disbursements of monies for other than routine expenses shall be made upon the written order of the chairman of the Executive Committee, and an itemized account of all receipts and disbursements shall be presented at each annual meeting of the Association by the executive secretary-treasurer. The annual disbursements shall not exceed the total amount of the budget, except on approval of the Executive Committee.

**Article XV. Fiscal Year.** The fiscal year of the Association shall be August 1 to July 31.

**Article XVI. Points of Order.** On all points of order not covered by these Bylaws, the Association shall be governed by Robert's Rules of Order or by the established usages in assemblages governed by parliamentary rule.

**Article XVIII. Amendments.** These Bylaws may be altered, added to, or amended at any annual meeting, except

as otherwise specified by Article 1, Section 13, provided that such alteration, addition or amendment shall have been referred to the Committee on Constitution and Bylaws for clarity of wording and consistence with other sections of the Bylaws, and provided that such alteration, addition or amendments shall be presented in writing and shall receive a two-thirds majority vote of the active member colleges present and voting. Articles II to XVIII, inclusive, or portions thereof, may be suspended at any annual meeting provided the motion shall receive a two-thirds majority vote of the member colleges present and voting.

**Article XVIII. Order of Business.**

1. Roll call
2. Announcement of Committee on Resolutions
3. Appointment of Nominating Committee
4. Announcement of Auditing Committee
5. President's address
6. Report of executive secretary-treasurer
7. Report of Executive Committee
8. Reports of standing and continuing committees
9. Recommendations from the Council on Conference of Teachers
10. Report of the editor of the *American Journal of Pharmaceutical Education*
11. Reports of standing and special committees
12. Reports of special representatives
13. Unfinished business
14. Miscellaneous
15. Election of officers
16. Address of the new president
17. New business
18. Executive session and election of new members
19. Adjournment

## Announcements

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**Kremers - Urban Sponsors History Award.** An Edward Kremers Award to stimulate top-level writing of the history of pharmacy among American writers has been established by the American Institute of the History of Pharmacy under an annual grant to be made by the Kremers-Urban Company.

The Kremers Award will be bestowed upon an American citizen "for an original publication or series of related articles (not excluding unpublished manuscripts) pertaining primarily to historical or historico-social aspects of pharmacy. There will be an expert committee to judge the entries on the basis of competence of research, interpretation and presentation.

An official form upon which to recommend a candidate for the first Edward Kremers Award may be obtained by request to the Institute's secretary, Ernst W. Stieb, 356 Pharmacy Building, Madison 6, Wisconsin, and must be returned before December 31.

**Rabe Named President.** Charles C. Rabe has been named to fill the new post of president of the St. Louis College of Pharmacy. He officially assumed the new position July 1.

Mr. Rabe received a B.S. degree in Pharmacy from the St. Louis College of Pharmacy in 1939 and an M.S. degree from the Massachusetts College of Pharmacy in 1950, where he specialized in pharmacy administration.

His diversified background in the field of pharmacy includes experience as a pharmaceutical manufacturer's

medical service representative and as a practicing pharmacist in retail pharmacies.

**McDonnell Elected President.** Dr. John N. McDonnell, general manager of the Pharmaceutical Laboratories Division of Schieffelin & Co., Cooper Square, New York, has been elected to the presidency of the college of pharmacy, Columbia University.

The appointment represents an important development in the growth program of Columbia's college of pharmacy. The college is launching a \$4 million campaign which will enable transfer of the institution from its present quarters at 68th Street and Broadway, New York, to a new building to be constructed on the University campus on Morningside Heights.

Dr. McDonnell has been a member of the college's board since 1953 and for the past year served as its chairman, and as first vice president of the college.

**BCP in National Program.** The Brooklyn college of pharmacy of Long Island University is the only pharmacy school in the United States to become a member of a national program for the education of African students in this country.

The program consists of 141 colleges and universities represented by the African Scholarship Program of American Universities, the United Negro College Fund, and the Cooperative African Scholarship Program.



According to Dr. Arthur G. Zupko, provost-dean of BCP, the action was taken in an effort to improve medical services in Africa by training qualified students in the field of pharmacy as well as in such specialized areas as community sanitation and public health programs.

The cooperative selection and admission program is being administratively supported by the African-American Institute, through its field offices in Africa, and the United States.

The college will provide full-tuition scholarships. Funds provided by the United States International Cooperation Administration will finance the students' maintenance and living costs; their own governments will provide the students' transportation to the United States and back home.

Boards of African educators of sixteen countries of Equatorial Africa and American admissions officers will interview African applicants to choose the participants in the program.

**Burney Named Vice President.** Temple University has announced the establishment of a new post, that of vice president for the Health Sciences, and the appointment of Dr. LeRoy E. Burney, former Surgeon General of the United States, as the first officer to hold the new post. Dr. Burney assumed his duties July 1.

The vice president for Health Sciences will have administrative responsibility for all educational activities related to the health sciences, the Temple University Hospital and its affiliated hospital relationships.

A native of Burney, Indiana, Dr. Burney was named Surgeon General of the Public Health Service by President Eisenhower in August, 1956. He has spent his entire professional career in public health activities.

**Hartman Appointed Dean.** The University of Mississippi has announced the appointment of a new dean of the school of pharmacy. Dr. Charles W. Hartman, previously chairman of the division of pharmacy and pharmacy administration at the University of Georgia, assumed his duties on July 1.

The new dean, a native of Shawmutt, Alabama, holds the B.S. degree in pharmacy and the M.S. degree in pharmaceutical chemistry from the University of Georgia. He received the Ph.D. degree in pharmacy from the University of Florida.

Hartman succeeded Dr. Elmer L. Hammond who will become dean emeritus and continue to serve the university as professor of pharmacy.

**Index of Teachers' Seminar Proceedings.** The Executive Committee has authorized publication of a cumulative index of the proceedings of the first ten teachers' seminars. The author and subject indexes have been compiled by Dr. Richard A. Deno and prepared for publication by the editor of this journal. It is planned that the index will be ready for mailing the first of September. Two copies are to be forwarded without charge to each member school; individual copies will be sold for \$1.50 each and will be available from the office of AACP Secretary Bliven, 1507 M Street, N.W., Washington 5, D.C.

**Silver Anniversary Honor Roll.** Seven schools or colleges of pharmacy have responded to the challenge to all member colleges of the American Association of Colleges of Pharmacy to obtain 100 per cent of their full-time teaching staff as subscribers to this journal.

The seven are:

The University of Alabama School of Pharmacy

The Southwestern State College  
School of Pharmacy

The Northeast Louisiana State  
College School of Pharmacy

The University of Nebraska College  
of Pharmacy

The University of Utah College  
of Pharmacy

The University of Washington  
College of Pharmacy

The Drake University College  
of Pharmacy

There is still time for your college to be listed on this Honor Roll during the celebration of the twenty-fifth birthday of the journal. Send in your subscription now.

**Bachmann to Dean.** Dr. R. O. Bachmann has resigned his position at the University of Arkansas College of Pharmacy to accept the deanship of the West Virginia University School of Pharmacy, Medical Center, Morgantown, West Virginia. Dr. Bachmann succeeds Dean J. Lester Hayman who has retired.

**Blockstein Rho Chi Secretary-Treasurer.** Dr. William L. Blockstein, college of pharmacy, Wayne State University, has been appointed by the Executive Council of Rho Chi Society to fill the vacancy created by the resignation of Dr. L. E. Bingenheimer. Dr. Bingenheimer, who was elected secretary-treasurer by mail vote of the chapters and installed in office at the recent Rho Chi Convention, is leaving the University of Tennessee College of Pharmacy to accept a research position with Dorsey Laboratories.

Dr. Blockstein will serve as the national secretary-treasurer of Rho Chi by Executive Council appointment until the next scheduled election for this office in 1962.

**Gibson Appointed Dean.** Dr. Robert Desmond Gibson has been named as dean of the college of pharmacy of the University of Nebraska, succeeding Dean Joseph B. Burt who retired on July 1.

Dr. Gibson has served since 1957 as chairman of the department of pharmacology. Prior to that he held an appointment at Southwestern State College, Weatherford, Oklahoma, as associate professor of pharmacology for three years.

Dr. Gibson is a graduate of the college of pharmacy of the University of Kansas, class of 1948, and also holds the Master of Science degree from that institution, conferred in 1950. He received the Doctor of Philosophy degree in 1954 from Purdue University, with a major in pharmacology and minors in physiology and chemistry.

Dr. Gibson served in the U.S. Navy from 1942-46 and again during 1951-52. During his work toward his doctorate degree, he held a fellowship from the American Foundation for Pharmaceutical Education. He is married and has three children, two daughters, ages 12 and 5, and one son, age 10.

**New England College Merges.** The New England College of Pharmacy will become part of Northeastern University, effective in September of 1962, and will be known as the Northeastern University College of Pharmacy, according to a recent joint announcement by Northeastern's President Asa S. Knowles and president of the New England College of Pharmacy, Dr. Leroy C. Keagle.

Northeastern will acquire the building, facilities, and equipment of the present New England College of Pharmacy. When consolidation of the two institutions takes place, Northeastern will administer the nation's only col-

lege of pharmacy on the Co-operative Plan of Education basis.

Under the Co-operative Plan of Education, upperclass students alternate ten- and sixteen-week periods of study in the University with periods of equal length on regular paying jobs in business and industry.

For the immediate future the college of pharmacy will conduct its programs at its present location, but plans are currently being made to locate the college on the Northeastern University campus. The college will have its own dean and professional faculty, but courses in general education or others now offered by established N.U. departments will be given by the present instructional departments at Northeastern.

#### **BIRTHS**

**Cynthia Louise Lach**—daughter of Professor and Mrs. John L. Lach, University of Iowa, born on May 29, 1961.

**Scott Elliot Mann**—born May 30, 1961, to Dr. and Mrs. David E. Mann, Temple University.

**Carol Ann Gardner**—born April 26, 1961, to Mr. and Mrs. Vincent R. Gardner. Mr. Gardner is instructor in pharmacy administration, University of California School of Pharmacy.

**Susan Anne Spee Stieb**—born April 28, 1961, to Dr. and Mrs. Ernst W. Stieb, University of Wisconsin School of Pharmacy.

**Della Ruth Bothel**—daughter born May 12, 1961, to Prof. and Mrs. John B. Bothel, Purdue University School of Pharmacy.

**Deborah Anne Iannarone**—daughter of Professor and Mrs. Michael Iannarone, Rutgers University College of Pharmacy, born October 16, 1960.

**Lisa Anne DeMaggio**—born to Dr. and Mrs. Augustus E. DeMaggio, Rutgers University College of Pharmacy, December 4, 1960.

**Grace Anne Watkins**—daughter born to Mr. and Mrs. Eugene Watkins, November 23, 1960. Mr. Watkins is a teaching fellow in pharmaceutical administration, University of Tennessee.

**Cynthia Jeanne Leonard**—born May 25, 1961, to Dr. and Mrs. Robert M. Leonard, George Washington University School of Pharmacy.

#### **MARRIAGES**

**Dr. Nicholas Lordi** and **Miss Bertha Taylor**, both of the chemistry department of the Rutgers University College of Pharmacy, were married June 24, 1961.

#### **NEW STAFF MEMBERS**

**University of Iowa.** Donald T. Witiak has been appointed an assistant professor in pharmaceutical chemistry.

**University of Rhode Island.** Bruce Brown, Ph.D., of the University of Michigan, has been appointed assistant professor of pharmaceutical chemistry.

**University of New Mexico.** Mr. Victor H. Duke has accepted the position of assistant professor of pharmacology effective September, 1961.

**University of Mississippi.** Joseph M. Campo, Ph.D., joined the faculty on September 1, 1960. Dr. Campo received the degree of B.S. in Pharmacy from the school of pharmacy of the University of Florida, Gainesville, Florida, and the M.S., and the Ph.D. degrees, with the major in pharmaceutical chemistry, from the same institution. Dr. Campo is associate professor of pharmacy.

**University of Tennessee.** Dr. Robert W. Goettsch, formerly of Northeastern Louisiana State, was appointed associate professor of pharmacy effective August 1, 1961.

Dr. Kenneth E. Avis, formerly of the Philadelphia College of Pharmacy and Science, was appointed associate professor of pharmacy effective August 1, 1961.

Dr. Wilbert G. Walter was appointed instructor of pharmaceutical and medicinal chemistry effective August 1, 1961.

Dr. William F. Holton was appointed research associate in pharmacognosy effective August 1, 1961.

**University of Minnesota.** Dr. Hugh F. Kabat, who recently completed his doctoral studies in pharmacy administration at the University of Colorado, has been appointed assistant professor of pharmaceutical technology.

Mr. Lee C. Schramm, who is completing his doctoral studies at the University of Connecticut, has been appointed assistant professor of pharmacognosy.

**University of Wisconsin.** Mr. Jack R. Arndt has been appointed assistant professor of pharmacy (part time). Mr. Arndt received his B.S. degree (pharmacy) from Ferris Institute, his M.S. degree (pharmacy) from the University of Wisconsin, and will receive his Ph.D. degree (education) from Wisconsin. He will also serve as director of the program of the Wisconsin Junior Academy.

Miss Dolores Nemec joins the school as librarian. Miss Nemec received her M.A. degree in library science from the University of Wisconsin and has had a variety of library experience at the University. She recently returned from a tour of duty with the U. S. Army Special Services Library Section in Nurnberg, Germany.

**Butler University.** Mr. Melvin Weinswig, who is completing his Ph.D. work at the University of Illinois College of Pharmacy, has accepted an appointment as assistant professor of pharmaceutical chemistry effective in September.

**University of Connecticut.** Karl A. Nieforth has been appointed assistant professor of pharmaceutical chemistry.

Dr. Bozena Wesley-Hadzija, a biochemist from the University of Zagreb, Yugoslavia, has been appointed a post-doctoral research fellow in the field of phytochemistry.

**George Washington University.** Dr. Charles Jelleff Carr, chief, pharmacology unit, Psychopharmacology Service Center, National Institute of Mental Health, has been appointed special lecturer in pharmacological research.

**University of Texas.** Dr. Alex Berman has been engaged to direct the pharmaceutical services of the University Health Center succeeding Mr. Kenneth Tiemann.

**Oregon State University.** Mr. Robert E. Brummett, who obtained his M.S. degree in pharmacognosy at Oregon State University in 1960 and has been matriculating at the Oregon Medical School during the past year towards a doctorate in pharmacology, has been appointed assistant professor of pharmacognosy. He will fill the position of Professor John D. Leary while he is on leave to complete work for his Ph.D. degree at the University of Connecticut.

Dr. George Sager, formerly on the staff of the University of Pittsburgh, has been appointed professor of pharmacy and head of the department of pharmacy. He replaces Dr. Ben F. Cooper, Jr., who has accepted a position at the University of Georgia.



**University of Southern California.** Dr. Walter H. Wolf has been appointed visiting assistant professor of pharmaceutical chemistry for the academic year 1961-62.

**Wayne State University.** Dr. Martin Barr has been appointed professor of pharmacy and chairman of the department of pharmaceuticals effective July 1, 1961. He was formerly professor of physical pharmacy at the Philadelphia College of Pharmacy and Science.

**University of the Pacific.** Dr. Le Ray J. Anderson, from the State University of Washington, has been appointed assistant professor of pharmacy in the department of pharmacy.

Max Polinsky, from the University of Wisconsin, has been appointed assistant professor and chairman of the department of pharmacy administration.

#### **CHANGES IN STAFF TITLES**

**University of Utah.** Dr. Robert C. Mason has been promoted to associate professor of pharmaceutical chemistry effective July 1, 1961.

Dr. Robert V. Petersen has been promoted to associate professor of pharmacy effective July 1, 1961.

**Temple University.** Dr. Harry Kostenbauder has been promoted from assistant to associate professor of pharmacy.

Dr. David E. Mann, Jr., has been promoted from associate professor to professor of pharmacology.

**The University of Mississippi.** Elmer L. Hammond, dean of the school of pharmacy for the past thirty-three years, will be retired with the title of dean emeritus on June 30, 1961. He will continue to serve as professor of pharmacy at the University.

**University of New Mexico.** Dr. Kenneth H. Stahl has been promoted from assistant professor of pharmaceutical chemistry to associate professor of pharmaceutical chemistry.

**University of Iowa.** Wendle L. Kerr has been promoted from assistant professor to associate professor of pharmacy administration.

**Drake University.** Mrs. Larissa Kaseoru has been promoted from instructor to assistant professor of pharmacy.

**University of Tennessee.** Dr. Ronald P. Quintana has been promoted from instructor to assistant professor of pharmaceutical and medicinal chemistry.

Mr. William B. Swafford has been promoted from assistant professor to associate professor of pharmaceutical administration.

**University of Minnesota.** Dr. Herbert Jonas has been promoted to associate professor of pharmacognosy.

**University of Wisconsin.** Dr. S. Morris Kupchan (pharmaceutical chemistry) has been promoted from associate professor to full professor.

**Purdue University.** The following have been promoted to associate professor: Dr. Gilbert S. Banker, pharmacy; Dr. Adelbert M. Knevel, pharmaceutical chemistry; Dr. George K. Yim, pharmacology.

Dr. William F. Bousquet has been named assistant professor of pharmacology effective July 1, 1961.

**St. John's University.** Henry Eisen has been promoted to professor of pharmacy and chairman of the department of pharmacy effective September 1, 1961.

Vincent de Paul Lynch, assistant professor of pharmacology, will assume the



chairmanship of the department of pharmacognosy, pharmacology, and allied sciences on September 1, 1961.

**Butler University.** Dr. Donald B. Meyers has been promoted to full professor in the department of pharmacology.

**Rutgers University.** Dr. Louis D. King has been promoted from associate professor of pharmacy to professor.

**George Washington University.** Franklin Dero Cooper has been promoted to associate professor of hospital pharmacy.

Dr. Robert M. Leonard has been promoted to professor of pharmacology and pharmacognosy.

**Wayne State University.** Mr. Merwyn R. Greenlick, who received the Master of Science degree in pharmacy administration from Wayne State University in February, 1961, has been promoted from special instructor to instructor in pharmacy administration.

**University of Michigan.** Dr. Jere E. Goyan has been promoted to associate professor of pharmacy.

SPECIAL NOTICE  
IN BEHALF OF THE EXECUTIVE COMMITTEE  
OF THE  
AMERICAN ASSOCIATION OF  
COLLEGES OF PHARMACY

*Zada Mary Cooper*

1875 - 1961

*Through the years of service she has, in her quiet, forceful way, been the influence around which this Association has functioned. She has been the one individual who has under all conditions and in all relations kept her balance and has been able to give unbiased, competent, and constructive advice to presidents, officers and committeemen alike whenever it has been called for.*

*These words of the Executive Committee, adopted unanimously by the membership at the 1942 meeting, express the influence of Zada Mary Cooper on this Association. As committee member, committee chairman, and for twenty years as secretary-treasurer, she gave dedicated service to her profession. Her memorials are the foundation she helped lay for pharmaceutical education of today and the student organizations she fostered—memorials which but few are privileged to possess.*

*May those of us who carry on the work of Miss Cooper do so in the same unselfish dedicated manner that was hers.*

Charles W. Bliven, Secretary

## Memorials

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### ZADA MARY COOPER

Miss Zada M. Cooper, professor emeritus of pharmacy at the State University of Iowa, died on May 6 at Clarkson Hospital in Omaha, Nebraska, at the age of eighty-six years. Death was due to a fractured hip and complications suffered from a fall in her home in Villisca, Iowa, where she had lived with two brothers.

Miss Cooper came to the State University of Iowa in 1895 as the valedictorian of her high school class in Quasqueton, Iowa, and graduated from the two-year course in pharmacy in 1897. She then accepted an assistantship in the college and remained on the faculty until her retirement in 1942. During the period of her assistantship from 1897 to 1905, she also registered in the collegiate department of the University, now the college of liberal arts. She served as an instructor from 1906 to 1912, an assistant professor from 1913 to 1924, and an associate professor from 1925 to 1942. Upon retirement, she was awarded emeritus standing by the University administration.

Her forty-five years of outstanding teaching, her capacity to work successfully with young people, and her conservative, professional philosophy endeared her in the hearts of alumni now located in every state in the union and in many foreign countries.

Early in her connection with the college of pharmacy she organized and developed the first departmental library which later was enlarged with a trained librarian in charge. She was editor of the *College of Pharmacy News* from its inception in 1924 until her retirement.

In 1942, after long negotiation, she had the satisfaction of having her efforts realized in having the Bachelor of Science in Pharmacy approved by the American Association of University Women, thus making alumni of the college eligible for membership in that more than seventy-year-old national society.

Miss Cooper was also an energetic worker in the American Conference of Pharmaceutical Faculties, organized in 1900, which in 1925 became the American Association of Colleges of Pharmacy. She was chairman of the Committee on Activities of Students and Alumni when, in 1921, it recommended the establishment of a national honor society for students in pharmacy. The following year this organization was incorporated under the name Rho Chi Society. She served as a member of the first Council of Rho Chi, and as its president from 1938 to 1940.

Miss Cooper served as secretary-treasurer of the American Association of Colleges of Pharmacy from 1922 to 1942. Her contributions to pharmaceutical education during those twenty years are impossible to measure or enumerate. Among these was her influence in establishing teachers' conferences and the American Council on Pharmaceutical

Education, and the inception of the *American Journal of Pharmaceutical Education*, the only journal in the United States dealing with pharmaceutical education.

Miss Cooper arranged the first meeting of representatives of local women's pharmacy clubs of the State University of Iowa, the University of Minnesota, and the University of Nebraska on May 13, 1921, at which Kappa Epsilon, National sorority for women in pharmacy was founded. She continued to guide the activities of the sorority, locally and nationally, until her retirement, and her counsel was sought continuously thereafter. Recently this organization at the State University of Iowa observed Founder's Day and the theme of the program was taken from one of Miss

Cooper's quotes: "The dreamer dies, but never the dream."

Miss Cooper was a member of many pharmaceutical organizations upon which her influence is still evident. She was accorded many non-pharmaceutical honors, among which were her election as regent of the Pilgrim Chapter of the Daughters of the American Revolution, and her selection as an honorary member of Iota Sigma Pi, the chemical sorority for women.

In her passing from our midst Miss Cooper leaves many indelible impressions on the profession of pharmacy, her professional colleagues, and countless friends who were privileged with her association.

James W. Jones  
Gail A. Wiese

## E. FULLERTON COOK

It is with sadness that we report the passing of Dr. E. Fullerton Cook, outstanding pharmaceutical statesman for more than fifty years. Death came to Dr. Cook on March 2, 1961, following a brief illness.

Ernest Fullerton Cook, the son of a Lutheran minister, was born in 1879. After graduating from high school in Waynesboro, Pennsylvania, he matriculated at the Philadelphia College of Pharmacy. In 1900 he received the P.D. degree from that institution, graduating with honors. Three years later he assisted in the establishment of the dispensing laboratory at his Alma Mater and, later, assumed full charge of the dispensing course as director of the operative pharmacy and dispensing laboratories.

Almost continuously during his lifetime Dr. Cook was connected in a vital way with the affairs of the Philadelphia College of Pharmacy—as a teacher and, in later years up to the time of his death, as a member of the Board of Trustees. One of his most important contributions was the significant role he played in moving the college to its present site.

Dr. Cook's contributions to pharmacy were not to this institution alone, but rather to the whole of American pharmacy and, perhaps more correctly, to "world" pharmacy. From the time of his graduation from college he was vitally interested in the *United States Pharmacopeia*, a love engendered by his mentor, Prof. J. P. Remington. He became chairman of the USP Committee of Revision, which responsible post he held for more than three decades. His contribution to the USP program did not stop there, however; largely through his efforts, funds were acquired to purchase the present beautiful build-

ing which now houses the pharmacopeial offices.

Dr. Cook was further privileged in assisting in drafting the first *International Pharmacopoeia* and was for many years a member of the International Commission of Pharmacopoeial Experts. He was also active in the revision work of the *National Formulary* and still found time to serve as co-editor of *Remington's Practice of Pharmacy*. To his many diversified tasks he brought a keenness of mind and tenacity of purpose found in but few men. For his many contributions to pharmacy he was

awarded American pharmacy's highest honor in 1931—the Remington Medal. In addition, he was the recipient over the years of many honorary degrees.

Dr. Cook was a man of high ideals and principles as well as an inspired leader in his field. His colleagues, friends, and admirers were world wide and countless in number. He will not soon be forgotten or replaced; men of his caliber are few, and our profession is indeed better today because of his fruitful life and invaluable contributions.

Harvey P. Frank

## BESS EMCH

Mrs. Bess G. Emch, retired professor of pharmacy at the University of Toledo, died March 27, 1961, at the age of seventy-seven. Mrs. Emch was acting dean of the college of pharmacy from 1942 until 1946, and was the first woman dean in the United States.

Mrs. Emch was born near Genoa, Ohio, and lived in Toledo for forty-seven years. She attended college at Ohio Northern University, Ada, Ohio, and Tri-State University, Angola, Indiana. She received a bachelor of phar-

macy degree from the University of Toledo in 1937. She was a public school teacher from 1915 to 1923 and became a full-time University of Toledo faculty member in 1937. Mrs. Emch retired in August, 1947.

Mrs. Emch and her husband, Garrett F., operated the Emch Pharmacy at South Avenue and Spencer Street from 1914 to 1950.

She was a member of Bethel Lutheran Church and Stella Chapter, Order of Eastern Star. She was past secretary of the Northwestern Ohio Branch of the American Pharmaceutical Association; founded the Women's Academy of Pharmacy for women graduates of the University of Toledo, and the Pharmaceutical Society for undergraduates.

Charles H. Larwood

## CLARENCE M. BROWN

Clarence Merton Brown, associate professor emeritus of pharmacy and secretary of the college of pharmacy,

The Ohio State University from 1920 to 1952, died suddenly at his home in Columbus, Ohio, on June 24, 1961, at the age of 74.

Professor Brown was born in Galion, Ohio, on February 6, 1887. He attended Galion High School and The Ohio State University, receiving the degree B. Sc. in pharmacy in 1911. He later continued his education while serving on the facul-



ty of the college of pharmacy, and received the M. A. degree in 1935.

Professor Brown began a long and successful teaching career in 1912 when he accepted a position as instructor in the high school at Logan, Ohio. New teaching opportunities took him to Zanesville High School in 1913 and to Springfield High School in 1920. When teaching duties did not demand all of his time, especially during summer vacation periods, he contributed his services and professional knowledge to the public as a registered pharmacist in numerous neighborhood pharmacies.

In 1920, he was appointed assistant professor of pharmacy and secretary of the college of pharmacy at The Ohio State University. He served as secretary of the college during all of his thirty-two years at the University, and held the position of associate professor of pharmacy from 1938 until his retirement June 30, 1952.

Numerous publications in pharmaceutical journals attest to Professor Brown's interest in advancing pharmaceutical education. He was also the author of several laboratory manuals for first-year students in pharmacy.

Professor Brown was always a loyal

and enthusiastic supporter of the professional fraternities and student organizations. He was a member of Rho Chi, the national honor society in pharmacy; an honorary member of Phi Delta Chi, national professional pharmaceutical fraternity; faculty advisor to Phi Rho Alpha; and co-advisor to The Ohio State University student branch of the American Pharmaceutical Association for several years. He was a member of the American Pharmaceutical Association, the First Congregational Church, and the University Lodge F and AM 631.

He is survived by his wife, the former Helen Gordon, and a son, Dr. Gordon Campbell Brown, of Ann Arbor, Michigan.

Sincerity, fairness, enthusiasm, insistence upon perfection, and devotion to his job and to his profession are attributed to Professor Brown by the hundreds of students who were privileged to attend his classes in pharmacy. His contributions to the college of pharmacy and to The Ohio State University through trying times of a major depression and world conflict can never be recognized adequately by words.

Frank W. Bope

## General News

**History Institute marks 20th year.** Twenty-seven men who have held membership in the American Institute of the History of Pharmacy throughout the twenty years of its work were honored at a twentieth-anniversary luncheon on April 29. The event concluded an open meeting of the executive council held at the Institute's office in Madison, Wisconsin following the organization's annual business and historical meetings at Chicago in conjunction with the meeting of the American Pharmaceutical Association.

The group convened briefly in the classroom at the University of Wisconsin School of Pharmacy "where, in 1941, a handful of foresighted men breathed life into a program that not merely has fostered a sense of heritage, but helps a pharmacist understand the full dimension of valid pride in being one."

**Thirty-seventh annual Rho Chi convention.** Epsilon chapter, Washington State University College of Pharmacy, was the recipient of the national Rho Chi Chapter Award of \$250 at the thirty-seventh annual Convention of Rho Chi Society at Chicago on April 25. Epsilon chapter, in the opinion of the Award Committee, made the most substantial contribution to the encouragement of qualified undergraduate students to enter graduate education in the pharmaceutical sciences. Dr. Theodore Sokolowski accepted the award in behalf of Epsilon chapter and presented a summary of the winning report to the Convention. Dr. Milton Neuroth, chairman of the Award Committee, made the award presentation.

At the close of the Convention Dr. Edward J. Rowe, college of pharmacy, Butler University, was installed as national vice president and Dr. L. E. Bingenheimer, school of pharmacy, University of Tennessee, was installed as national secretary-treasurer. Dr. Martin Barr, Philadelphia College of Pharmacy and Science, and Dr. Roy Hammarlund, school of pharmacy, University of Washington, were installed as new Council members. The officers installed will each serve two-year terms. Fifty-four chapters of the Society were represented at the Convention.

**Danti elected.** Dr. August G. Danti, Northeast Louisiana State College of Pharmacy, was

elected secretary-treasurer of the Fifth District Louisiana State Pharmaceutical Association for the year 1961-62.

**Husa retires.** Dr. William J. Husa is retiring as professor emeritus of pharmacy after teaching at the University of Florida for thirty-eight years.

**Bolton to England.** Sanford M. Bolton, University of Rhode Island, has been awarded the AFPE Gustave Pfeiffer Memorial Fellowship. Dr. Bolton will do research with Dr. Arnold Beckett at the Chelsea College of Science and Technology, Chelsea, England, commencing September, 1961, and terminating in June, 1962.

**Pharmacy extension service.** Associate Professor William B. Swafford has been named head of the newly formed department of pharmaceutical administration and director of the college of pharmacy extension program at the University of Tennessee. Dr. Joe E. Haberle, assistant professor, and Mr. Eugene Watkins constitute the three-man department.

**Dental hygiene at New Mexico.** Beginning with the fall semester 1961-62, the college of pharmacy of the University of New Mexico will administer a two-year certificate course in dental hygiene. Monica A. Novitski, D.D.S., has been appointed associate professor of dental hygiene and director of the dental hygiene program. The program is supported by a three-year grant of \$113,000 from the Kellogg Foundation.

**Rare books collection.** A new collection of rare and scholarly books was recently dedicated to the memory of Dr. Otto E. M. Ruhmer, late professor of history at the Brooklyn College of Pharmacy, in a ceremony in the college library. The collection consists chiefly of standard and rare texts in the history of pharmacy and allied sciences.

**McEvilla to A.Ph.A.** Dr. Joseph D. McEvilla has been named to serve as project director of the A.Ph.A. Foundation Prescription Insurance Study. He will be on leave of absence from his position as associate professor

and head of the department of pharmacy administration, University of Pittsburgh School of Pharmacy. McEvilla, graduate of the University of Florida (B.A. '44) and Pittsburgh (B.S. in Pharmacy '49; M.S. '52; and Ph.D. '55), is a leading authority on pharmaceutical economics.

**Zachert lectures.** Mrs. Martha Jane K. Zachert, librarian, Southern College of Pharmacy, was chosen by the Special Libraries Association to deliver the 1961 John Cotton Dana Lecture on Special Librarianship for the Southern region. Mrs. Zachert's lecture, titled "SLA: An Association in Search of Standards," was delivered at the division of librarianship of Emory University on May 11, 1961.

**Chang returns.** Dr. Frederic C. Chang, University of Tennessee, returned July 1 from a three-month trip around the world establishing sources for plants to be screened for steroid content.

**Bingenheimer resigns.** Dr. L. E. Bingenheimer has resigned as associate professor of pharmaceutical and medicinal chemistry at the University of Tennessee to accept a position with Dorsey Laboratories in Lincoln, Nebraska.

**Isotope lab at Minnesota.** A new radioisotope laboratory for teaching and research has been completed with a \$17,000 grant from the University. In addition, a preliminary grant of \$8,000 has been received from the Atomic Energy Commission for instruments and apparatus. Beginning in the fall quarter, four courses in radioisotope techniques will be available for undergraduate and graduate students.

**Honorary degree to Craig.** Dr. John Cymerman Craig, University of California School of Pharmacy, was recently awarded an honorary Doctor of Science degree by the University of Sydney for his work in organic and medicinal chemistry.

**Hartung Writers' speaker.** Dr. Walter H. Hartung, Medical College of Virginia School of Pharmacy, was a speaker at the Science Writers Institute at the University of North Carolina, Chapel Hill, N.C., June 12-16.

**Burlage addresses T.Ph.A.** Dr. Henry M. Burlage, dean of the college of pharmacy of the University of Texas, addressed the Tennessee Pharmaceutical Association at its annual convention in Memphis on June 20 on the subject of "Professionalism in Pharmacy."

**Sperandio to Board of Directors.** Dr. Glen J. Sperandio of the staff of the school of pharmacy of Purdue University has been appointed to the Board of Directors of Home Hospital. He is to serve as advisor to the hospital pharmacy.

**Christian lecturer.** Professor John E. Christian presented the fifth annual Julius A. Koch Memorial Lecture at the University of Pittsburgh March 30, 1961. The Julius A. Koch Memorial Lecture is one of the major lectures presented at the University and is open to the general public, all members of the health professions, and students in the schools of pharmacy and medicine. Professor Christian discussed "Radioisotopes in Medicine and Research."

**Republicans honor Evanston.** Dr. Robert V. Evanston, Purdue University, was honored by the Purdue Young Republicans Club at the end of the school year. The Club honored two Purdue teachers with certificates of merit for their presentation of current events to their students. One of these was Professor Robert V. Evanston for his outstanding presentation of current problems facing the pharmacy profession.

**Rowlands conduct tour.** Dean and Mrs. I. W. Rowland left San Francisco by jet plane June 21 leading a group of California pharmacists on an international tour. The group proceeded first to London for a series of informal meetings with pharmaceutical groups, educators, and publishers. Leaving London, the group visited a number of major cities on the continent. The entire tour lasted fifty days and took in nine European countries.

**Gibson OEEC fellow.** Dr. Melvin R. Gibson, professor of pharmacognosy at Washington State University School of Pharmacy, has been named a senior visiting fellow in science of the Organization for European Economic Cooperation.

OEEC fellows are selected by a panel of scientists appointed by the National Academy of Sciences, National Research Council. The fellowships are administered by the National Science Foundation.

Dr. Gibson is one of nineteen fellows chosen from all areas of science. He will spend four months studying at the University of Leiden in The Netherlands and the National Pharmaceutical Institute in Stockholm, Sweden. He will be on sabbatical leave from Washington State University for seven months next year.

**Award to Dobbins.** Dr. James T. Dobbins, retired professor of chemistry, University of North Carolina, has been named first winner of the school of pharmacy faculty's newest award. This is given for distinguished teaching and goes to someone outside the pharmacy faculty. Dr. Dobbins has had a long and illustrious teaching career and is credited with teaching beginning chemistry to practically every pharmacy student at the University of North Carolina from 1918 to 1960. He was presented with an inscribed antique American mortar and pestle.

**Wurster investigates rocket fuel.** Professor Dale E. Wurster of the University of Wisconsin School of Pharmacy will spend the summer at the United States Naval Ordnance Test Station at China Lake, California. This will be the second time that Dr. Wurster has been invited to spend the summer at the Test Station where he will be engaged in both research and development work on solid rocket fuel systems.

**Tice honored.** Dean Linwood F. Tice was the recipient of the 1961 Pharmacy Achievement Award of the Philadelphia branch of the American Pharmaceutical Association.

**PCPS speaker.** Dr. Semour S. Kety, chairman of the department of psychology at Johns Hopkins Medical School, received the Rho Chi Citation and delivered the annual Julius W. Sturmer Memorial Lecture at the college May 18. His address was titled "The Implications of Biochemistry to Psychiatry."

**Martin resigns.** Dr. John W. Martin, associate professor of pharmaceutical chemistry, is leaving Butler University to accept a position in the chemistry department of Bridgewater College in Virginia.

**Science Fair.** The ninth annual Science Fair was held on the Butler University campus on April 15, and the pharmacy building was used to house most of the exhibits. Dean K. L. Kaufman was chairman for the event. More than 400 exhibits were entered.

**Bhatia directs program.** Dr. V. N. Bhatia, Washington State University, has been appointed associate chairman of the Honors Council as of September 16. He will serve part time in this capacity and will be concerned with the operation of the university-wide honors program at WSU.

**Sciarra Switzerland speaker.** Dr. John J. Sciarra, St. John's University, has been in-

vited to present a lecture on "Pharmaceutical and Medicinal Aerosols" at the Third International Aerosol Congress of the Federation of European Aerosol Associations. This is being held in Lucerne, Switzerland, during October 4-8, 1961. He is the only participant from the United States. While in Europe, Dr. Sciarra will meet with others in the aerosol industry as well as visit aerosol installations in other countries.

**BCP education program.** Dr. Louis Heil, head of the office of testing and research at Brooklyn College, has begun a series of faculty seminars on educational objectives and their relation to student achievement at the Brooklyn College of Pharmacy.

Cognizant of the frequent attacks by educators against professional colleges for their alleged preoccupation with scientific fact and laboratory techniques and their consequent neglect of the learning process itself, provost-dean, Arthur G. Zupko of the Brooklyn College of Pharmacy instituted compulsory summer courses for faculty in educational methods. It is believed that BCP is the first college of pharmacy in the United States to establish such a program.

The present course deals chiefly with the clarification of educational objectives, the methods for obtaining evidence of the relation between courses and their educational goals, and the interpretation and analysis of such objectives.

**Fulbright to Miller.** Dr. Orville H. Miller, University of Southern California, will spend the academic year 1961-62 at Cairo University on a Fulbright appointment as professor of industrial pharmacy.

**Biles at Upjohn.** Dr. John A. Biles spent the summer at the Upjohn Laboratories in Kalamazoo in the product development research division under the direction of Dr. W. F. Enz and in the section directed by Dr. John G. Wagner. He worked in the area of crystallography.

**Forslund returns.** Professor Herman C. Forslund has resumed his position as professor of pharmacy administration at Oregon State University after returning from his sabbatical leave and Fulbright appointment to the faculty of pharmacy at the University of Alexandria, Egypt. The Forslund family completed a tour of Europe previous to their return to the United States.

**Undergraduate research program at Kansas.** An Undergraduate Research Participation



Program of the National Science Foundation has been established at The University of Kansas School of Pharmacy. Six undergraduate students will participate full-time during the summer and continue on a part-time basis during the academic year. Each will work with a graduate student or a senior staff member. Three of the six are working on pharmacology projects, the other three in pharmaceutical chemistry.

**Burlage receives degree.** Dean H. M. Burlage of the college of pharmacy of the University of Texas was awarded the honorary degree of Doctor of Science by his Alma Mater, Purdue University, during commencement ceremonies on June 3. He is the first dean of the University of Texas College of Pharmacy that has been so honored.

**Autian studies plastics.** Dr. John Autian, University of Texas, is engaged in the study of the toxicology of plastics at Hynson, Westcott and Dunning in Baltimore during the summer months. He is an adviser to the Plastics Standards Committee of the Pharmaceutical Manufacturers Association.

**Conference at Texas.** The third annual Student Counselors Conference was held at the University of Texas College of Pharmacy on June 24. Representatives from twenty-five senior and junior colleges participated. The conferences are staged for the purpose of acquainting student counselors with the profession of pharmacy and the college curriculum.

**Ingalls re-appointed.** Dr. James W. Ingalls, associate professor of pharmacology at the Brooklyn College of Pharmacy, has been re-appointed as visiting assistant professor of pathology at the Albert Einstein College of Medicine, Yeshiva University, N.Y., for a period of two years, beginning July 1, 1961.

**Arkansas symposium.** The faculty of the school of pharmacy of the University of Arkansas presented "The Lederle Symposium" for the senior students in the schools of pharmacy and medicine May 10, 1961. The after dinner speakers gave a symposium for the senior students on "After Graduation, What?" The medical profession was represented by Dr. Louis A. Whittaker, an alumnus of the University of Arkansas School of Medicine and a general practitioner; industry was represented by Mr. V. P. Reger, Jr., assistant regional manager of Lederle Laboratories; the pharmaceutical profession was represented by Mr. Fred Ragland, an alumnus of the Uni-

versity of Arkansas School of Pharmacy. Mr. Maxwell James, director of trade relations, was the New York representative of Lederle and was the host.

Dr. Ray Bachmann of the school of pharmacy served as moderator and summarized the material presented by the panelists.

This was a most successful meeting in helping members of the health team to become more fully aware of the problems common to each other.

**Leonard named at GWU.** Robert M. Leonard, who has been assistant dean at the George Washington University School of Pharmacy for some years, has been named acting executive officer.

**Michigan fellowships.** Dr. Hiroyasu Watanabe will be at the University of Michigan during 1961-62 working on a postdoctoral fellowship with Dr. J. H. Burckhalter.

Dr. Harold Smith will be working at the University of Michigan during the academic year 1961-62 under the direction of Dr. A. M. Mattocks on a Lederle postdoctoral fellowship.

**Squibb award to Zopf.** A distinguished service award was made recently to Dean Louis C. Zopf of the University of Iowa. Zopf was honored for "his invaluable service to the advancement of pharmacy, distinguished leadership in pharmaceutical education, guidance of young pharmacists and his successful efforts to strengthen ties between pharmacy and medicine."

**Grants received or renewed.** Witold Saski, University of Nebraska, has received a \$1,000 grant from the University of Nebraska Research Council for work on interactions of sorbic acid with macromolecules.

Dr. Lemont B. Kier, University of Florida, has received a \$28,000 grant from the National Institutes of Health to continue a study of the chemistry of a tumor-inhibiting substance from a tree fungus.

Eli Lilly & Co. has awarded \$1,700 to The University of Arizona's college of pharmacy for support of research on native plants of the Southwest by Dr. Jack R. Cole. The pharmacological activity and chemical constituents of several plants are being studied "to establish their effectiveness as therapeutic agents."

The University of Arizona's college of pharmacy has received a \$1,725 research grant from Hoffman LaRoche, Inc., for study of



one of the newer tranquilizers by Dr. Albert Picchioni and Dr. Lincoln Chin. Picchioni said the chlordiazepoxide product is being tested on laboratory animals for "anti-convulsive effect on seizures such as occur in epilepsy."

The division of biology and medicine, Atomic Energy Commission, has established a \$12,500 grant to the University of Tennessee College of Pharmacy for the purchase of isotope equipment.

Dr. Arnold Alpert, University of the Pacific, and the department of pharmaceutical chemistry have received a grant of \$3,448 from the Atomic Energy Commission for undergraduate training in the use, handling, and processing of radioactive pharmaceuticals. The award, which was received through the AEC division of biology and medicine, will be used for equipment supplies to enrich the presently existing course in drug analysis.

The National Institutes of Health has awarded the Rutgers University College of Pharmacy a Health Research Facilities grant of \$15,467 to be matched by a like amount from the University for the construction of a new biological research laboratory.

Drs. Clarence A. Discher and John M. Cross, Rutgers University, have received a grant of \$7,005 from the National Institutes of Health for research on "A Study of the Photodecomposition of Epinephrine."

Dr. Glenn H. Hamor, University of Southern California, has been awarded a research grant in the amount of \$34,693 by the National Institute of Neurological Diseases and Blindness of the Public Health Service. The grant covers a three-year period and is to be used to support studies on the synthesis and structure-activity relationships of muscle relaxants.

Four pharmacy students have been doing research during the summer at the Oregon State University College of Pharmacy regarding the effects of kinetin and gibberellic acid on various *Solanaceous* plants. The project was made possible by a grant of \$6,880 from the National Science Foundation for an Undergraduate Research Participation Program in pharmacognosy.

Ohio State University College of Pharmacy received a \$8,455 grant for an Undergraduate Research Participation Program, 1961-62, supported by the National Science Foundation. As a result of the grant, seven superior pharmacy students are getting their first taste of research during the summer under the direction of senior faculty members of the college of pharmacy.

Dr. Leo Schermeister, North Dakota State University, has been awarded a \$1,000 grant from the North Dakota Heart Association for a preliminary phytochemical study of North Dakota plants for cardiotonic agents.

A grant of \$10,095 has been made to the NDSU College of Pharmacy by the AEC for purchase of additional equipment. This is the second such grant to be awarded the college of pharmacy.

Dr. Mathias P. Mertes, The University of Kansas School of Pharmacy, has received a two-year National Institutes of Health grant of \$16,000 for the study of fluoropyrimidines. He will also study mercuri-dimercaptides under a grant of \$2,400 from the Kansas University General Research Fund.

The American Cancer Society has granted Dr. Mathias P. Mertes \$2,400 for a study of the synthesis of agents for cancer chemotherapy at The University of Kansas School of Pharmacy. James M. Zielinski will be the research assistant for this project.

## Book Reviews

**Frederic F. Flach and Peter F. Regan, III**  
*Chemotherapy in Emotional Disorders*  
New York: McGraw-Hill Book Company,  
Inc., 1960. xi + 314 pp., 4 tpls., \$10.00.

This book has a foreword by William Malamud, professional and research director, The National Association for Mental Health, Inc., in which he states: "During the last 25 years we have witnessed a most impressive and hitherto unprecedented advance in that phase of medicine which deals with mental and emotional illness. The progress that has been achieved, however, has been so rapid, and the increase in both the scope and complexity of the whole field so great, that it has become essential to undertake a systematic organization of the new data in order to make it possible to apply in practice the knowledge that has been acquired."

"From a clinical point of view this need for more adequate organization of the new material has been made particularly necessary because of two special features in this progress. The first of these is the introduction of a large number of new methods of treatment, especially in the area of somatic therapy. The second one is the knowledge that has been gained in regard to the importance of emotional factors in the causation of somatic illness and the development of the concept of psychosomatic medicine."

This book adequately covers both these areas.

The authors of this book have divided their topic into three sections. The first section deals with the evaluation of the patient for treatment. In this section there is a good basic review of the principles of psychiatric treatment; diagnostic considerations (where the six major groups of psychiatric illnesses are presented and the outstanding features of each discussed). Pathologic emotions, moods (such as anxiety, fear, elation, hostility, and depression), and sexual arrest are each discussed from the standpoint of origins, manifestations, and consequences.

Associated psychopathologic factors generally present when dealing with pathologic emotions, moods, and sexual arrest are discussed. The ways in which these associated pathologic factors may obstruct psychotherapy and alter the type of subsequent treatment are presented. There is also a discussion of the various factors that may be predisposing to mental illness, such as personality structure, period of life, physical states, attitude to treatment, and previous therapy.

The second section is titled "The Clinical Effectiveness of Somatic Therapies." Chapters are devoted to chlorpromazine and related phenothiazine derivatives, reserpine, the barbiturates, meprobamate, electroconvulsant treatment, stimulants and anti-depressive agents, insulin treatment and lobotomy, endocrine therapy (primarily with thyroid and steroid compounds), and miscellaneous drugs (anticonvulsants, disulfuram, anti-Parkinson compounds, diphenylmethane derivatives, para-acetamidobenzoate, and methaminodiazepoxide). The various conditions for which these agents are used, their mechanism of action, method of administration, side effects, and complications are given. There are some case histories given to point out effectiveness. The discussion of electroconvulsant treatment and lobotomy, while not chemotherapeutic, is integrated very well in this book and may actually be considered necessary for a study of this kind.

The third section is titled "The Integration of Treatment Methods." There are chapters devoted to the treatment of psychoneurotic reactions, schizophrenic reactions, affective reactions, paranoid reactions, personality disorders, and organic reactions. The effectiveness and the possible combinations of the various types of drugs and other methods of therapy are discussed in this section.

There follow a glossary of drug names and their trade names and a bibliography which includes important books and articles which seem pertinent to the text and give additional information on the subjects discussed.

The book is well written. Probably the most outstanding feature of the book is the simplicity of presentation, and yet it is not over-simplified. This is an excellent reference book and could even be used as a text in courses that deal with emotional disorders and the chemotherapeutic agents used in treating them. It would be an excellent book for those who would like to catch up with the somewhat new and rapidly expanding area of psychotherapeutics and have an excellent background.

Marcus W. Jordin  
University of Arkansas

#### Jessie E. Squires

*Basic Pharmacology for Nurses*. Second Edition.

St. Louis: C. V. Mosby Company, 1961.  
iii + 273 pp., 8 figs., 6 tbs. \$3.50.

This book has been written with the fact in mind that pharmacology is not an easy subject for nurses. The theory and facts concerning medicine and drugs have been correlated step by step with practice in drug administration, and the entire text is organized to encourage the nurse in self-help study and teaching.

This book is designed to help students in brief courses in nursing to understand their responsibility in the administration of medicine and to appreciate the necessary limitations imposed on nurses in this function. Part I includes basic information concerning the main effects, uses, and doses of the common drugs, together with weights, measurements, abbreviations commonly used in medicine, directions for the use of tuberculin, insulin, and other syringes, and provision for practice in correct methods of administration of medicines.

In order that the student nurse may more intelligently recognize and report the effects of drugs upon the body, the order of presentation of subjects in Part II has been arranged to coincide with the teaching of the various systems in anatomy and physiology.

The text is so arranged that Part I could be presented paralleling Part II in the beginning of the course. Students can be placed in groups for the final medicine "pour practice," and measurement of dosage, which should be given before the final examination.

Many of the procedures and practice lessons have been designed not only for class study and participation but also for "self-teaching."

A final section is devoted to test and review questions. These assignments are ad-

dressed directly to the student with specific instructions for the study and review of the units in the text. The student can take the test outside.

This Second Edition has been expanded to include additional teaching aids such as a lesson on conversion of Fahrenheit to Centigrade and vice versa; the latest on the newer drugs, particularly tranquilizers and circulatory system drugs; and many practical problems in oral administration.

The book was proposed for use in teaching pharmacology to nurses, but it should also serve as a quick ready reference for any students in pharmacy or in pharmacology.

In general the text is well written, concise and to the point. The arrangement seems to be logical and easily adapted to use concurrently with allied courses. The book has been planned for use with standard two- and three-hole ring binders to allow the instructor to insert additional pages to either section.

It is the opinion of the reviewer that this book is an excellent text for beginning use in teaching pharmacology to nurses.

Alta Ray Gault  
University of Mississippi

#### K. Fotherby, J. A. Loraine, and P. Eckstein, Editors

*Progress in Endocrinology, Part I*

New York: Cambridge University Press, 1961. v + 166 pp., 36 figs., 4 plates, 20 tbs. \$8.50.

This is a collection of papers delivered in August, 1959, to a joint meeting of the British Society for Endocrinology and the Endocrine Societies representing the "Acta Endocrinologica Congress." This particular memoir records the presentations on neuroendocrinology and the thyroid and parathyroid glands.

Though twenty-three papers are listed in the table of contents, four of these are merely covered by journal reference. The eight contributed papers on neuroendocrinology are as follows: "The Inhibitory Action of the Hypothalamus upon Gonadotrophin Secretion," "The Feedback Regulation of ACTH Secretion," "Thyroid-Pituitary Feedback: Direct Thyroid Hormone Inhibition of the Pituitary-Thyroidectomy Reaction in the Rat," "The Adreno-cortical Response to Increased Intracranial Pressure in Man," "The Ovarian Response to Chorionic Gonadotrophin in Immature Rats with Median Eminence Lesions," and "The Influence of the Hypothalamus on Luteotrophic Secretion in the Rats." The following six papers are

on the thyroid gland: "The Relationship between Pituitary and Thyroid Gland in Health and Disease," "The Therapeutics of Hyperthyroidism," "Auto-immunity and the Thyroid Gland," "Physiological Significance of Binding of Thyroid Hormones to Serum Proteins," "Influence of Thyroid Hormones on the Uptake of  $^{32}\text{P}$  by Red Blood Cells," and "Influence of Thyroxine on Liver Ribonucleic Acid and Ribonucleotides." The five papers on the parathyroid gland which are erroneously listed in the table of contents under the thyroid gland are as follows: "Clinical Studies in Hyperparathyroidism," "Clinical Applications of Quantitative Micro-radiography and of the *In Vitro* Phosphate 'Exchange' Capacity of Bone Samples," "Parathyroid Gland Function as Assessed from the Plasma Ionized and Protein-bound Calcium Fractions," "The Urinary Excretion of Calcium, Phosphorus and Radioactive Phosphorus after Injection of Parathormone," and "The Maternal and Foetal Parathyroids in Toxemia of Pregnancy."

The individual papers vary in scope, depth, and breadth of coverage. A number of authors give an extensive review of the general knowledge of the topic (well documented) and concentrate briefly on their own original contribution. Some of the papers are extensive reports, and some are short reports on the authors' results. Many of the papers end with discussions. Participants in these discussions offer their own data on the topic, and in one particular case the data are presented in illustrative form.

These collected papers contribute greatly to the comprehension of the physiological regulation of the pituitary trophic hormones. The role of the hypothalamus, adenohypophysis and the feedback regulation of the hypophyseal secretion are covered in many of the papers. The regulation of the gonadotrophin hormone secretion is particularly interesting since the hypothalamus exerts an inhibitory effect on LTH secretion indirectly by stimulation of FSH and LH release. Evidence for the feedback regulation of gonadotrophin hormone releases by gonadal hormones, of ACTH release by corticosteroids and TSH release by thyroxine is presented. There is increasing evidence, however, that hormones of other endocrine glands may play a role in TSH secretion.

Topics on the thyroid and parathyroid gland of interest to clinical endocrinologists are also covered. The anti-thyroid drugs have been replaced by  $^{131}\text{I}$  in therapy of thyrotoxic patients over forty-five. Certain cases of myxoedema can be attributed to the develop-

ment of thyroid antibodies initiated originally by a virus infection. Hyperparathyroidism is accompanied by an increased rate of turnover of bone, increased rate of bone deposition, and lower mineral content of bone.

I consider this collection of papers of value to academic and clinical endocrinologists. Its interest to pharmacy students is limited. However, it would be a valuable addition to the pharmacy library for the research-minded faculty and students.

Shirley D. Kraus  
Long Island University

#### F. W. Schueler

*Chemobiodynamics and Drug Design*

New York: McGraw-Hill Book Company, Inc., 1960. xiv + 638 pp., 110 figs., 34 tpls. \$19.50.

The material in this book is based on the author's twelve years' experience in teaching the material to graduate students and represents a presentation of difficult subject matter in a very readable fashion. The author's jaunts into the philosophical realm of chemobiodynamics and drug design are extremely interesting and should be thought-provoking to every reader. To the reviewer's knowledge no other book covers such a vast array of subject matter interwoven to give a singleness of purpose. However, because of the broad spectrum of subject matter covered in this book it is hardly possible to employ it as a textbook for a particular course; also, of necessity, depth is sacrificed for breadth.

The book is divided into two parts, I. Chemobiodynamics and II. Drug Design. The format of the book enables one to find subject matter easily since all subtitles of a chapter are numbered, e.g., 1-2 (Chapter 1, part 2). The Levels of Organization of Natural Systems. Some other randomly selected subtitles are: 1-9. The Level-to-level Interaction Effected by Drugs; 2-4. Objectivity and Arithmetization; 3-12. The Third Quantum Number; 4-12. Correlation and Causality; 8-9. Topological Cytochemistry as a Key to the Relationship between the Polymolecular-system Level and the Cellular Level of Integration; 13-5. Rational Approaches to the Random Search for New Drugs; 15-4. The Concept of Isomorphism and the Unity of Nature in Science and Education.

Chapter 14 is devoted to problems and exercises in which the author poses questions and statements to be discussed and speculated upon. A typical question in one of the sections is, "What fields of drug design may



be stimulated in anticipation of exploration in outer space?" Readers will find this chapter, like the other portions of the book, interesting and provocative.

The book is replete with mathematical as well as chemical equations and formulas, more so than is indicated by the number of figures. Certainly a background in mathematics in its broadest sense, in all fields of chemistry and biology, is necessary to obtain the maximum benefits which can be derived from this book. It is certainly made clear throughout the book that knowledge in these areas is indeed beneficial, if not necessary, in pharmacology. Because of this, the book may appear awesome and tend to discourage the new graduate student in pharmacology. On the other hand, I am sure it will serve to drive the better students on to new vistas of knowledge.

It is this reviewer's opinion that *Chemo-biodynamics and Drug Design* is a "must" in every pharmacy school library. It is an excellent book particularly for the more advanced graduate students in pharmacology and pharmaceutical chemistry to read and to reflect upon. For additional reading there are more than 160 references cited in the fifteen chapters.

Tom S. Miya  
Purdue University

**Eugene L. Parrott and Witold Saski**  
*Experimental Pharmaceutical Technology*  
Minneapolis, Minnesota: Burgess Publishing Company, 1961. iv + 256 pp., 7 figs. \$5.75 (paper).

This laboratory manual was designed for a course which combines elements of pharmaceutical calculations, preparations, and physical pharmacy, and which does not correspond exactly, therefore, to the course which is described under the title, "pharmaceutical technology," in Blauch and Webster, *The Pharmaceutical Curriculum*. Nevertheless, the title of the manual seems to describe the contents accurately. This approach to the problems of pharmaceutical formulation is a long step forward from the all too prevalent empirical approach to the preparations, but avoids many of the more difficult theoretical aspects of the usual physical pharmacy presentation.

The major divisions of the book include metrology, solids, solutions, polyphasic systems, and plastic systems, followed by an extensive appendix. The section on metrology is a short but essential introduction to the problems of compounding accuracy. The following sections deal with the characteris-

tics of different types of physical systems with particular attention to pharmaceutical preparations. Galenical classification is subordinated to physical classification, with corresponding emphasis upon similarities, rather than differences, between related classes. For instance, syrups, elixirs, tinctures, aromatic waters, and fluidextracts are recognized as special cases of solutions, obeying the same physicochemical laws.

Pharmaceutical calculations are introduced as needed throughout the book. The integrated approach to this body of knowledge should be helpful to the math-shy student who is inclined to panic when faced by a large block of new mathematical information, however simple.

The appendix is a useful collection of information including tables of weights and measures, equivalents, physical constants, and a brief review of exponents and logarithms. A short discussion of differentiation is provided for the student with no knowledge of the calculus.

A laboratory course based upon this manual should meet the needs of all students except those preparing for graduate study, without a separate course in physical chemistry. Because of the organization of the material, with introductory text at the beginning of each chapter, there may be some temptation to use this volume as textbook as well as laboratory manual. The instructor would be well advised to resist such temptation and to supplement the lectures in the course with a text such as Martin's *Physical Pharmacy*. Those not wishing to adopt the author's integrated three-semester approach can still find abundant material here for a one- or two-semester course following the usual introductory pharmacy courses.

The volume would be a useful addition to the reference library in any undergraduate pharmacy laboratory.

L. E. Bingenheimer, Jr.  
University of Tennessee

**Eugene Galanter, Editor**  
*Automatic Teaching: The State of the Art*  
New York: John Wiley & Sons, Inc., 1959.  
viii + 198 pp., 8 figs. \$3.25.

This book represents a compilation of some papers and abstracts that were read at the University of Pennsylvania's first conference on the art and science of the automatic teaching of verbal and symbolic skills held in the latter part of 1958.

Galanter, as editor of the book, did a magnificent job of collecting and arranging the papers presented at this conference in a



logical sequence of presentation, considering that there were twenty contributors of papers covering a wide field of interests on the problems of the teaching machine. These papers present a rather technical approach to the problems in this field and are of more concern to the researcher than to persons interested in planning a program for introduction to a school.

The first two chapters in the book deal with the problems concerned with teaching—whether it be by machines or by human beings. R. M. Gagne and R. C. Bolles have written an excellent chapter in which they review some of the factors dealing with learning efficiency. This chapter would be a great benefit to any teacher, whether he is interested in teaching machines or not. Chapters three through thirteen are presented to discuss the value of the teaching machine in various disciplines and to discuss some of the particular theories of teaching and learning when using various types of machines. The final three chapters are primarily a summary of various theories of teaching machines and psychological-educational issues raised during the conference on teaching machines.

For the teachers of pharmacy who are interested in the teaching machine, an excellent chapter by L. E. Homme and R. Glaser should be read. The authors point out in this chapter the relationship between the programmed textbook and the teaching machine. A discussion of the merits of each method will help an interested teacher to decide which approach might be used in his particular area. Dr. Norman Crowder, an expert in the area of programmed texts, has written a chapter explaining in detail his reason for adopting the "scrambled book" technique of automatic tutoring.

Another excellent paper, by A. A. Lumsdaine, discusses the use of automatic teaching in group and individual learning situations. Since most teachers are faced with the problem of teaching groups of students, this paper is a revealing discussion of the problems associated with the learning process of groups of students.

In general, this book is a discussion of the problems and theories of learning with special emphasis on the teaching machine as an aid to teaching and as a research tool to examine some of the theories of learning. I feel that the book is not as comprehensive in its coverage of the field of teaching machines as the book by Lumsdaine and Glaser (*Teaching Machines and Programmed Learning*), but, as was pointed out by the editor, it

was not intended to be a survey of the area, but rather to pinpoint some of the problems.

The book does have its shortcomings. The terminology used in many of the papers is often confusing to the non-expert in the field. As one reads other books on the subject of programmed learning, it is quite apparent that many of the experts do not use consistent terminology, but perhaps this is to be expected in a new and rapidly growing field. However, some readers will be annoyed by the technical terminology used without explanation.

I hesitate to recommend this book as a "must" for those pharmacy teachers who may be interested in the teaching machine or a programmed text. There are some chapters in the book which are worthwhile to any teacher because they discuss theories of learning, but for a comprehensive survey of the field other references should be consulted. It might be pointed out, however, that if by chance a pharmacy teacher has a background in educational psychology and is interested in research in the use of teaching machines in pharmacy, he should, by all means, purchase this book for his library. It would perhaps be wiser to recommend that this book be purchased by a pharmacy college library for use by its faculty as a reference book on specific problems of automatic teaching.

Wallace L. Guess  
University of Texas

Alexander Hollaender, Editor  
*Radiation Protection and Recovery*  
New York: Pergamon Press, 1960. v + 392 pp., 57 figs., 22 tpls. \$10.00.

Under the editorship of Alexander Hollaender, a compilation of the efforts of fifteen noted scientists in radiation biology is presented in this volume. Chapters are presented under the titles, "Protection of Macromolecules *In Vitro* Against Damage By Ionizing Radiation," "Chemical Protection To Mammals Against Ionizing Radiation," "Protection and Recovery In Bacteria and Fungi," "Protection and Recovery of the Cell From Radiation Damage," "Chromosome Aberrations," "Protection and Recovery From Ionizing Radiation: Mechanisms In Seeds and Roots," "Genetical Protection," "Experimental Treatment of Acute Whole-Body Radiation Injury In Mammals," "Modification Of Delayed Somatic Effects of Ionizing Radiation," "Effects Of Radiation on Antibody Formation," and conclude with a captivating discussion, "Photoreactivation."

The text is written in such a manner as to make the book of value to the biologist

having a casual interest or curiosity about the subject. Additionally, sufficient detail and description of experimental procedures and results are present to make the volume of immense value to the researcher active in the field. More than 1,500 references to the recent literature are included. The subject matter is presented in such a way as to carry the reader through from such introductory concepts as the mechanisms by which ionizing radiation interacts with biological entities and systems up to a detailed discussion of prophylactic and therapeutic treatment of radiation effects. In this volume, the important field of radioprotective compounds is well covered as to methodology used both in such studies and in discussions of different chemical classes.

This volume could well be used as a text in radiation biology at the advanced undergraduate and graduate student levels and, in fact, represents the first significant work in this respect. It should also be of value to the researcher in physiology, pharmacology, biochemistry, and organic medicinal chemistry as a reference work. University or industrial laboratories carrying out radioisotope investigations or otherwise involved in health physics activities should be aware of this volume.

The book would prove a valuable addition to the pharmacy library because of its general treatment of this highly interesting field and would serve as a reference work in such subject areas as radioisotope techniques and radiological safety.

This work is characteristic of the high standards set in previous efforts under Professor Hollaender's authorship or direction.

William F. Bousquet  
Purdue University

**P. S. Larson, H. B. Haag, and H. Silvette**  
*Tobacco, Experimental and Clinical Studies*  
Baltimore: The Williams and Wilkins Company, 1961. xii + 932 pp. \$20.00.

This comprehensive review constitutes a well-organized synthesis of the information from more than 6,000 articles concerned with the biomedical effects of tobacco. While it is not possible to convey effectively the magnitude of this effort, it is a start in this direction to point out that the authors spent over twenty years compiling the data, have covered every imaginable facet of the biomedical aspects of tobacco, and include sources well into 1959. This volume not only represents the outstanding source of information on this subject, but serves to illustrate what

may and should be done in many areas of scientific interest.

The authors, fortunately, have not attempted to be selective in their use of information, but have included everything on the subject. While this policy may prove to be discouraging to the lay person who may wish to employ the book as a source of general information, it should make it of particular value to the scientist working in this field.

As one might assume, to write a book requiring such a vast amount of time and effort would indicate more than a passing interest on the part of the authors. Indeed, they are well known in the field of tobacco research. Nevertheless, the evidence relating the relationship of tobacco to certain morbidity and mortality rates appears to be somewhat biased at times, and the reader gains the impression that tobacco is actually a benign and frequently maligned agent. There is a tendency to view those who oppose the use of tobacco as dogmatic in their opinions or moralistic in their motives. On the other hand, highly uncritical opinions of clinicians favorable to tobacco occupy prominent or key positions in the context. While the urge to moralize is not uncommon, one cannot refute serious studies of competent scientists by any number of unscientific endeavors or unsupported opinions. As an illustration, the authors conclude the section on mental efficiency with a statement of their own designed to refute a conclusion that smoking decreases the ability to do mental work. "... common experience seems to attest quite otherwise: men almost invariably light a cigarette *before* they commence mental work. . . ."

The material is divided into twenty-two chapters which include the usual physiologic categories of drug effects plus special topics. The latter include toxicology, hypersensitivity, tolerance and habituation, immunology, the effects on mental and physical efficiency, longevity and reproduction, the relationship of the use of tobacco to morbidity and mortality rates, and the relationship to specific diseases.

This book should be of great value to anyone concerned with research in this area because of the careful organization and the bibliography of about 6,000 references. For obvious reasons a book of this type would hold little interest for the average layman; yet certain lay-medical groups concerned with the role of tobacco in various diseases may find it of value. For this reason and because high school students frequently try

their hand at the study of the biological effects of tobacco, it may be a useful addition to public libraries. Certainly the volume should be in all pharmacy and medical libraries as a source of information for undergraduate and graduate pharmacology courses as well as for research information.

Duane G. Wenzel  
The University of Kansas

**O. A. Battista**

*Mental Drugs: Chemistry's Challenge to Psychotherapy.* Philadelphia: Chilton Company, 1960. xx + 155 pp. \$3.95.

As author Battista piquantly points out, psychotherapy has long held sway in the difficult, if not impossible, task of ameliorating mental illness. Subtly at first, however, and then more dramatically, the use of chemicals, natural and synthetic, to alter behavior and mentation has jarred this patriarch of mental disease care from its ivory tower.

An essential theme of this small, non-technical book is a restatement of the contemporary concept that a biochemical disturbance(s) is responsible for mental aberrations, in contrast to ascribing psychic dysfunction to the venerable Freudian-psychanalytic concepts. Another theme is that the new science of psychopharmacology attempts to feed or stifle "psychic fires" through the therapeutic use of any one of a host of new chemicals which are believed to act by correcting or modifying an underlying biochemical "lesion" responsible for the mental disturbance.

The author in a fairly commendable way weaves this story of a promising approach to the treatment of mental disease through the use of hypothetical and documented psychiatric case histories. A glossary of mental health terms is appended to assist the reader in understanding the vagaries of psychiatric nomenclature and terminology.

There is a definitely waxing, sobering attitude of clinicians in this field of drug therapy, however, which unfortunately is not reflected in the enthusiastic psychochemical leanings of the author. Inasmuch as the volume was written during the heyday of salutary reports of tranquilizer and antidepressant pharmacotherapy, this emphasis on the chemical control of the mind is understandable. However, the reviewer feels that Dr. Battista might have stressed the fact that these psychopharmaceuticals are certainly not cures, but are merely palliatives. It may be that the lack of emphasis will mask the true significance of the efficacy of these medi-

cinals to the laity to whom this report was primarily addressed.

A number of inconsistencies and errors were noted. In a number of instances the author used the words adrenalin and epinephrine separately and infers consequently that they are dissimilar compounds. On page 60, serotonin is said to be a "chemical relative of adrenalin . . . (and) norepinephrine"; this is true only in a very hypothetical sense. On page 63, adrenochrome is erroneously credited with potent pressor properties. On page 64, in addition to the misspellings for d-tubocurarine and bulbo-capnine, the author fails to interject the necessary route of administration (intraventricular) for the former alkaloid in order to obtain the proper drug-action connotations. On page 114, gamma aminobutyric acid is misspelled. Iproniazid is falsely credited, on page 120, with "slowing up the production of MAO."

The author, although admittedly writing in a light and flowing style, might have presented a more accurate, balanced exposition of his story, without a concomitant loss of flavor, if he had had a more practical familiarity with psychopharmacology. His lack of reference to side effects (e.g., behavioral) of the new psychotropic drugs and to the unfortunate promiscuous use of them by the general practitioner may tend to give the lay reader a false impression that drug panaceas for the sick mind are at hand. The new psychoactive agents are a challenge to psychotherapy, but perhaps more conservatively and accurately they are, at the present time, but aids to effecting *mens sana in corpore sano*.

Despite its shortcomings, this book does serve a useful purpose in bringing before the public eye, in an easily understood fashion, the story of a novel approach to the treatment of mental disease. It will provide, to a degree, a survey for those individuals who desire a broad, nontechnical background in the auspicious rise of, and the case for, psychopharmacology and its medical, social, and economic implications.

Paul V. Buday  
University of Rhode Island

**K. Diem, Editor**

*Documenta Geigy, Wissenschaftliche Tabellen.* Sixth Edition. Basel: J. R. Geigy, A.G., Pharmazeutische Abteilung, 1960. 724 pp. (Free.)

This German language book has something in common with the *Handbook of Chemistry and Physics*, the *Merck Index* and Lilly's now defunct *De Re Medica*, in addition to a

good many original features. Like Lilly's *De Re Medica*, it is not distributed through bookstores but only through the publisher as a goodwill token. Although intended mainly for the physician, the volume contains several well-compiled sections of interest to pharmacists and pharmaceutical chemists: a concise, yet very thorough presentation of statistics with numerous tables (150 pp.); a very concise chapter on biochemistry of metabolism, written by Professor H. Krebs and members of his staff at Oxford (116 pp.); summaries on vitamins and hormones (53 pp.). The most essential literature sources were given for the biochemistry sections.

I am sure that Geigy would obtain a favorable response by introducing the book also outside Europe.

T. Werner Schwarz  
University of California

**H. Munro Fox and Gwynne Vevers**

*The Nature of Animal Colours*

New York: The Macmillan Company, 1960.  
xii + 246 pp., illus. \$6.50.

This book is written primarily for zoologists and other biologists and gives a concise but rather comprehensive account of animal colors from chemical, physical, and physiological standpoints.

The chapters are arranged to present the compounds in natural groups: Melanin; Sclerotin, Ommochromes, Tyrian Purple; Carotenoids; Hemoglobin, Chlorocruorin; Hemochromogens, Porphyrins, Bilins, Hemocranin, Hemerythrin, Hemovanadin; Quinone Pigments; Guanine, Pterins, Flavins; followed by Miscellany. While chemical structures are given in many instances, they are not so numerous as to discourage or dismay the nonchemist reader.

The book is full of delightful and interesting information concerning incidents in connection with the development of the knowledge of certain colors. An appendix consisting of a synopsis of animal color clarifies many misconceptions. The so-called red hair of man and of many mammals, which is really orange, is colored by a pigment of unknown nature, apparently related to melanin. The yellow color in eyes, hair or feathers may be due to melanin, but the yellow feathers of the canary, of the yellowhammer, of the gold finch and of many other birds are colored by carotenoids.

Since experience is the best demonstration, the authors wisely included a chapter on laboratory experiments. This will stimulate the student to a large degree to do something about pigments still under investigation.

The number of excellent and interesting color plates is only too small. A list of 612 references is given at the end of the text.

Ernst R. Kirch  
University of Illinois

**Douglas F. Lawson**

*The Technique of Photomicrography*

New York: The Macmillan Company, 1960.  
xvi + 256 pp., 114 figs., 10 tpls., 71 plates.  
\$12.75.

*The Technique of Photomicrography* is available for those desiring help in embarking or improving upon photomicrography. Several textbooks are available in this field, some of which have been published or revised recently. Most of the textbooks, including the one written by D. F. Lawson, should be valuable for both the amateur and the professional.

Whether by intent or by accident, Dr. Lawson chose some excellent examples for stimulating teachers of pharmacy to improve their teaching techniques or helping them to visualize techniques or results with the aid of photomicrography. The author should be complimented on his excellent choice of plates. Some of the plates show: (1) rates of solution of aspirin and glycine, (2) tablet stability tests in which crystal growth of salicylic acid is seen on the surface of compressed tablets, (3) microscopic observations of the dispersed phase of emulsions in which the quality of the photomicrographs is affected by altering the different optical parts of the microscope, (4) sections of the human scalp in black and white and color, (5) the effect of narcotizing agents on Rotifers, (6) the transverse sections of parts of various plants, (7) airborne fungi (in which the depth of field is very good).

There are sixteen chapters in the textbook, a section on glossary of terms, bibliography, and index. The author has selected references of interest. These references are of value to the photomicrographer. The author discusses the microscope and the optical parts in four separate chapters. The different methods of illumination are discussed in detail (five chapters). This length of discussion is appreciated since every photographer appreciates the importance of illumination; satisfactory illumination in photomicrography is often very difficult to achieve. Additional chapters are included which deal with stereoscopic photomicrography, photomicrography in color, photomicrography by flashlight, processing plate and paper, and mounting and staining. The author does not discuss electron photomicrography.



The textbook is well planned; the manner of writing is quite acceptable; the quality of the paper is good. It is the reviewer's opinion that teachers in the different divisions of pharmacy would realize the value of photomicrography after examining this book. I suggest the text be included in science libraries and the libraries of amateur and professional photomicrographers.

John A. Biles  
University of Southern California

M. J. Katz, Editor  
*Vacuum Microbalance Techniques, Volume 1*  
New York: Plenum Press, 1961. xviii + 152 pp., 52 figs., 1 tbl. \$6.50.

This is the first in the proposed series, *Vacuum Microbalance Techniques*, and contains the proceedings of the 1960 Conference sponsored by The Institute for Exploratory Research, U.S. Army Signal Research and Development Laboratory. The eight papers and two comments of the Conference are preceded by a list of the participants and the organizations they represent, and by an introduction and an editor's note. The latter two serve to summarize the conference and some of the advances made in microbalance methods.

The papers are concise and well documented, and the excellent illustrations throughout enhance their readability. The topics are: (1) An Enclosed Physical Chemistry Laboratory—The Vacuum Microbalance, (2) Automatic Recording Vacuum Microbalance, (3) A Vacuum Microbalance and Omegatron Spectrometer: The Application to Ion-Bombardment and Sputtering Studies, (4) Use of Pivotal Microbalance Design for Determining Mass Changes, (5) A Quartz Microbalance for Operation in Ultra-High Vacuum, (6) Microbalance Techniques for High Temperature Applications, (7) The Effect of Pressure on Microgravimetric Studies in Hydrogen, (8) The Effect of Thermomolecular Flow of Gases on a Microbalance Suspension. Two comments which follow deal with the causes and magnitude of the spurious effects in low-pressure regions and with thermonuclear effects. In general the papers review the design and operation of vacuum microbalances, calibration procedures, sample preparation, heating procedures and problems, capabilities in measuring mass changes, and temperature and pressure effects. The applications deal mainly with the characteristics of solid surfaces, especially surface reactions of metals with oxygen, hydrogen, and water vapor, and as a result of ion bombardment. The capabilities and

the extreme sensitivity of the vacuum microbalance are definitely established.

Although the book will have a rather limited appeal, those in pharmacy interested in physical problems, especially the measurements of monolayers and thin films, and adsorption measurements, should find this volume of significant importance.

Joseph A. Zapotocky  
University of Arizona

A. A. Lumsdaine and Robert Glaser, Editors  
*Teaching Machines and Programmed Learning, A Source Book*. Washington, D.C.: Department of Audio-Visual Instruction, National Education Association, 1960. 724 pp., illus. \$7.50.

In an educational journal (*School and Society*) in the year 1926 there appeared an article entitled, "A Simple Device Which Gives Tests and Scores and Teaches." The article was written by a young educational psychologist, Dr. S. L. Pressey, Ohio State University, who had been experimenting for several years with mechanical devices to help teachers administer and grade examinations. He soon realized that the "machine" he had developed also appeared to teach. From these early works, the "teaching machine" was born, but its growth and acceptance had to wait several generations until Dr. B. F. Skinner, noted Harvard educational psychologist, published his now classical article "Teaching Machines" in *Science* (129, 969(1958)). Within a year or two the spread of the teaching machine concept to all levels of education was on its way. As often occurs, however, when an innovation appears which in a true sense is quite revolutionary, the lay press descended upon it and soon headlines blared that "machines will teach your youngster," or "learning like pigeon" or other such startling headlines which inevitably conjure in many minds a rather sinister implication of the teaching machine. Unfortunately, the misconceptions on teaching machines were soon also being uttered by many faculty members outside the schools of education who for one reason or another were not aware of the history, the pedagogical virtues and the real problems at present with the teaching machine.

A definite need is thus fulfilled by the recent book, *Teaching Machines and Programmed Learning*, by Lumsdaine and Glaser. Here for the first time is a text which reviews the subject of teaching machines by presenting original articles in a manner which can enlighten and educate those interested in teaching.



To correct misconceptions which may have arisen in the reader's mind, it will be necessary to state unequivocally that machines cannot and will not, now or in the future, teach. It is much better to view the teaching machine as a concept rather than as a machine. Briefly, this concept utilizes the approach of organizing a subject matter into a logical easy-to-hard sequence which can then be presented to the student in very small segments (frames). The student must then respond with an answer, and, if the answer is correct, he proceeds to the next frame. In this fashion, the student can travel through the subject matter with considerable ease until he has completed the course. The organization of subject matter in the frames is called the *program* and is the key to the success or failure of the teaching machine. Machines cannot create the programs; human minds must do this.

Lumsdaine and Glaser have performed a remarkable feat in collecting the existing literature on teaching machines and arranging these articles into five subdivisions or parts. Each part is introduced by the editors, informing the readers as to what to expect in the articles which follow. There are forty-seven articles in the five subdivisions, of which twenty have not been previously formally published.

Part I states the purpose and scope of the book. The editors write: "Published articles in this field have appeared in a widely scattered periodical literature. A number of the more recent contributions have not been published. Dissemination of information has depended largely on word of mouth and personal correspondence. This has been a quite inefficient process, involving much overlapping of effort, and has also imposed a heavy burden upon the authors of papers. Available supplies of reprints or copies of unpublished papers have frequently been exhausted."

Part II includes some of the original papers of Pressey as well as other articles dealing with self-instructional test scoring devices.

Part III contains the work of Skinner and his associates which "has caught the imagination of educators and psychologists throughout the country and that has provided the main stimulus for the surge of interest" in the teaching machine.

Part IV introduces the work of Dr. Norman Crowder, another pioneer in the teaching machine field, but of more recent vintage. Crowder deviates from the Skinner method of programming and introduces the "non-

linear" or "branched-type" of programs. By the Crowder method if the student responds with the wrong answer, he is channeled to another frame where more information is presented in order that the student may finally arrive at the correct responses. Other articles are also included in this subdivision which are related to the general theme of the book but not necessarily continuing with the thinking of Pressey or Skinner.

Part V deals with the most recent publications in the field by other educational psychologists.

A concluding chapter is presented by Lumsdaine and Glaser in which future implications are stated. The newness and the lack of adequate experimental data on teaching machines prompt the authors to conclude:

"The rate at which the methods of programmed learning may influence the practices, staff and facility requirements of school systems is difficult to predict. However, it seems likely that we can look forward to significant revisions in concepts of classroom practices and teacher function."

The book, as may be gleaned from the title, is a source book. It contains more than 700 pages of which 572 pages deal with various articles. The remaining pages are devoted to a listing of abstracts on teaching machine articles, followed by a very comprehensive bibliography.

To some readers, as will often happen in a source book where original articles are included, there may be some feeling of duplication, but this is not serious and, in fact, may serve quite advantageously to readers who are new to the teaching machine. The only real fault which might be found in this book is that there is no index to the various topics presented in it, and thus the reader must of necessity rely on shuffling of pages to ferret out a specific point.

Since at the present time there is no other text (except *Automatic Teaching* by E. H. Galanter, John Wiley & Sons, New York) in the field, *Teaching Machines and Programmed Learning* is a must for those in pharmacy education who are either curious or interested in learning more about teaching machines. It may, in fact, be the first step by an individual faculty member to start thinking about a possible revamping of the classical method of teaching in our schools of pharmacy.

John Autian  
The University of Texas

**S. C. Wallwork**

*Physical Chemistry for Students of Pharmacy and Biology*. Second Edition. New York: Longmans, Green and Company, Inc., 1961. xi + 345 pp., 48 figs., 10 tpls. \$3.75.

Among the excellent features of this very inspiring and simply written book are its fine pedagogic quality, a mathematical introduction to physical chemistry covering the mathematical principles necessary for complete mastery of the subject matter presented, and a clear, concise treatment of such topics as the structure and constitution of substances as correlated with certain of their properties that are of special interest to the biologist and the pharmacist. The authors aimed at writing a book in which physical chemistry discussion was to be integrated with related and well-chosen experiments. This combination, for which every science instructor strives in teaching, has been admirably accomplished.

The first chapter presents thirteen pages of discussions and problems centered around the required preparation one needs to pursue in order to understand the remainder of the textbook. The next three chapters summarize the properties, constitution and structure of matter in terms of modern theories and facts. Chapters five through nine classify and discuss chemical equilibrium and its applications. The last two chapters treat briefly, but rather thoroughly, the nature and properties of surfaces and colloids. Frequently and very appropriately throughout the book discussions and examples, such as the ones given on pages 50-53, 101-104, 144-145, 152-156, 180-181, 237, 251-252, 285-286, 291, 296-297 and 338, are made of the significance of various topics in physical chemistry in explaining certain biological and/or pharmaceutical properties. These discussions and examples convincingly show the importance of physical chemistry to the theoretical biochemist and pharmaceutical chemist. This book further emphasizes the fact that many of the systems that are of great biological importance and the task of elucidating the processes are often simplified by considering the physical chemistry of the systems.

It is the feeling of the reviewer that this book is the foremost in its field as compared to other books of its kind. The reviewer, being mindful that a textbook of this length cannot go into a complete treatment of each topic, nevertheless feels sure that greater appreciation and acceptance of the book by students of limited background in mathematics could have been achieved if more

worked-out problem examples had been included.

I would recommend highly this book as a textbook and as a laboratory manual for those students majoring in biology or pharmacy. It is also a valuable reference book.

Ray F. Wilson  
Texas Southern University

**Arthur C. Cope, Editor-in-Chief**

*Organic Reactions, Volume XI*  
New York: John Wiley & Sons, Inc., 1960.  
vii + 501 pp., 56 tpls. \$12.00.

This volume, like the preceding members of this well-known series, considers in a comprehensive way a number of important reactions of particular use in synthetic organic chemistry. Each of the five reactions discussed in this volume is covered from a preparative point of view, and an exhaustive search of the literature is made to list all examples of the type of reaction being discussed. The convenient format of previous volumes is maintained and includes an introductory historical development of the reaction, a mechanism or mechanisms, scope and limitations, experimental conditions, experimental procedures, and finally a tabular survey.

Chapter 1, The Beckmann Rearrangement, by L. G. Donaruma and W. Z. Heldt; 156 pages, 593 references, and 92 pages of tables. This is an old and much-used reaction for the conversion of an oxime into an amide as the many references and tables indicate.

Chapter 2, The Demjanov and Tiffeneau-Demjanov Ring Expansions, by P. A. S. Smith and D. R. Baer; 32 pages, 110 references, and 7 pages of tables.

Chapter 3, The Arylation of Unsaturated Compounds by Diazonium Salts (The Meerwein Arylation Reaction), by C. S. Rondstedt, Jr.; 72 pages, 161 references, and 36 pages of tables. This reaction is of fairly recent origin and is not as well known as most of the reactions discussed in this volume. It has been presented in a very attractive way by the author, and it will undoubtedly become a much better known and used reaction because of this chapter.

Chapter 4, The Favorskii Rearrangement of Haloketones, by A. S. Kende; 56 pages, 127 references, and 24 pages of tables.

Chapter 5, Olefins from Amines: The Hofmann Elimination Reaction and Amine Oxide Pyrolysis, by A. C. Cope and E. R. Trumbull; 177 pages, 391 references, and 98 pages of tables. This very old (1851) reaction used for the conversion of an amine into an olefin is better known as "The Hof-

mann Exhaustive Methylation Reaction." The scope and limitations of this reaction are thoroughly reviewed and compared with the pyrolysis of amine oxides, a reaction which until recently had been neglected as a means of preparing olefins.

The literature has been covered for examples of these five reactions from 1851 through 1957 and into 1958. The researcher is therefore relieved of much of the library work that is usually necessary when he is considering a certain reaction. He can often decide whether to go to the original work by simply looking over the tables or consulting the section on modifications and limitations. This book seems to be remarkably free of errors except for such minor ones as the bond marks which are missing on page 172.

Although this volume is designed primarily for the synthetic organic chemist, it will find use in advanced organic chemistry and organic preparation courses as well as general organic courses. The *Organic Reactions* series has become recognized as an outstanding series of books, one that every pharmacy school library should have on its reference shelves.

J. Doyle Smith  
Medical College of Virginia

**William Horwitz, Editor**

*Official Methods of Analysis of the Association of Official Agricultural Chemists*. Ninth Edition

Washington, D.C.: Association of Official Agricultural Chemists, 1960. xx + 832 pp., 90 figs. \$17.50.

The increasing awareness of the necessity for closer regulation of products used as or entering into food, drugs or cosmetics continually challenges the ingenuity of the analytical chemist. Analysts will welcome the Ninth Edition of this useful collection of tested analytical procedures. These procedures, which have been contributed and tested by more than three hundred chemists, will answer many of the problems occurring in the control of agricultural and pharmaceutical products. Pharmaceutical education will find the sections dealing with pesticides, disinfectants, plants, enzymes, flavoring agents, oils, preservatives, spices, drugs and coloring materials of special interest. Many procedures described in these sections will be useful supplementary material for graduate and undergraduate courses in pharmaceutical analysis.

The new edition has kept pace with advances in analytical chemistry. Greater use

has been made of such techniques as chromatography and spectrophotometry. Methods utilizing paper chromatography have been included for the first time.

Users of previous editions will be somewhat startled by the new format which uses larger pages divided into two columns. While the older format may have been more convenient, the editors wisely chose the present procedure rather than resort to multiple volumes.

The Ninth Edition has been carefully prepared and edited to include what appears to be the most usable and necessary analytical procedures. It will be greatly appreciated by analysts.

James E. Gearien  
University of Illinois

**Leonard Uhr and James G. Miller, Editors**  
*Drugs and Behavior*

New York: John Wiley & Sons, Inc., 1960. xix + 676 pp., figs., tpls. \$10.75.

It is often said that progress is made in science when the problems are recognized and presented; a solution is then in sight. If this is a valid criterion, then we can say that progress is being made in the area of psychopharmacology. And this can be assumed from reading *Drugs and Behavior*.

This book makes an attempt to present many of the problems which have been delineated through past clinical and laboratory researches in this area. And in most respects, the attempt is fruitful. Granted, it leaves some things to be desired; however, the editors do not claim the work to be encyclopedic. For example, some readers will be disappointed that some research is not more completely outlined in regard to techniques. Nevertheless, the authors fill this void by use of a liberal bibliography. Others will probably be disappointed that the book does not cover more of their particular interest in this discipline. Again, however, a pertinent and almost comprehensive bibliography is presented.

Among the points which the reader will bring away from this work, at least three are outstanding. In the first instance, several of the articles have been published previously in other sources.

The reader will note, however, that in nearly all cases material is added, points are clarified, and, in some places, corrections are made in light of newer findings.

The second point is that psychopharmacology is not and cannot be an individual endeavor. It will progress only through group effort, and work in the field absolutely

requires related knowledge or at least some understanding of several cross-disciplines.

The third fact is that there appears to be emerging a unifying concept and, through its acceptance, this branch of science should achieve a recognized status. According to one of the contributors, Fritz A. Freyhan, "It is already quite apparent that no one can be productive in the field of psychopharmacology while holding on to traditional methods or frames of reference. The need for multidisciplinary cooperation is, therefore, generally conceded."

It would be well if everyone interested in psychopharmacology would read the entire book, and not just the chapters concerned with his particular interest.

There are criticisms which are apparent and others which individual readers will formulate. This reviewer found the greatest fault with the book's mechanical structure. It will be found to be divided into parts and then into sections, each of which contains a number of chapters related to a particular subject. On the contents page, this appears to be ideal. However, it makes for disunification in reading, so that one jumps from clinic to laboratory and back again before thought in any area can be adjusted properly. Without careful reading, this could result in a loss of perspective of the book's entire theme. The individual chapters are well written and compensate somewhat for the difficulty in putting the text together cohesively.

Vincent de Paul Lynch  
St. John's University

#### H. W. Gerarde

*The Toxicology and Biochemistry of Aromatic Hydrocarbons*  
Princeton, New Jersey: D. Van Nostrand Company, Inc., 1960. xiii + 329 pp., 89 figs., 63 tpls. \$6.00.

This little book is a well-written, logically arranged, concise but comprehensive treatment of this important group of chemicals.

Part One, approximately one third, is devoted to general considerations in this field. An outline of nomenclature, classifications, economic importance, sources and uses of aromatic hydrocarbons is followed by generalizations of physical properties, analytical methods, toxicology and biochemistry.

In Part Two, comprising approximately two thirds, the aromatic hydrocarbons of industrial importance are treated individually in logical order. A chapter is devoted to benzene and is followed by chapters on the alkylbenzenes, dicyclic and tricyclic aromatic

hydrocarbons, polycyclic aromatic hydrocarbons, and aromatic hydrocarbon mixtures such as solvents, fuels, and lubricants. In each of the above, bold-faced captions make possible a ready reference to the following topics: synonyms; physical properties; sources, uses and probable modes of contact; analytical methods; toxicology; biochemistry; threshold limit; prevention, detection, and treatment of exposure. Under toxicology, both acute and chronic toxicity in animals and human experience are given for most of the compounds discussed. The biochemistry is concentrated on absorption and metabolism. Carcinogenic action is discussed in the chapter on the polycyclics. Of particular interest here is a table of polycyclics which have produced skin tumors in mice by repeated topical application, and two tables, first of mono-, di- and tricyclics and secondly of polycyclics which have not produced skin tumors in mice by repeated topical application.

Terms common to the petroleum industry which are used throughout the book are defined in the conveniently appended glossary.

Considerable original data of the author are published in this volume for the first time. This book should be of considerable interest not only to toxicologists and biochemists but particularly to pharmacologists and medicinal chemists because of the numerous references to structure and action relationships. It is a must for the libraries of industrial and clinical toxicologists.

George W. Hargreaves  
Auburn University

#### George L. Clark, Editor

*The Encyclopedia of Spectroscopy*  
New York: Reinhold Publishing Corporation, 1960. xvi + 787 pp., figs., tpls. \$25.00.

The favorable acceptance accorded the *Encyclopedia of Chemistry* (1957) and its *Supplement* (1958) has encouraged its editor to apply the same idea of encyclopedic coverage to two other rapidly expanding areas of science, spectroscopy and microscopy. This book, covering the first of these areas as indicated by its title, is the editor's compilation and integration of more than 170 articles covering twenty-three different major topics in spectroscopy, prepared especially for the purpose by more than 160 well-qualified contributors.

The following listing of the major topics from the table of contents indicates the broad scope achieved: Absorption Spectroscopy (Spectrophotometry)—Visible and Ultraviolet; Band Spectroscopy; Beta-ray Spec-



troscopy; Differential Thermal Analysis; Electron Paramagnetic Resonance Spectrometry; Emission Spectroscopy—Light; Flame Photometry; Fluorophotometry and Phosphorimetry; Gamma-ray Spectrometry; Infrared Emission Spectroscopy; Infrared Spectrophotometry; Mass Spectrometry; Microwave Spectrometry; Monochromators; Neutron Spectrometry; Nuclear Magnetic Resonance Spectra; Raman Spectroscopy; Solar Spectroscopy; Vacuum Spectroscopy; X-ray and Gamma-ray Absorption Photometry (Absorptiometry); X-ray Characteristic Absorption Spectrometry; X-ray Diffraction or Crystal Spectra; X-ray Emission Spectrometry.

Quoting from the preface, "Under each of these (topics are presented) the various aspects of history, theory, instrumentation, techniques, interpretations and applications of each method, which taken together cover the topic as completely as possible. Carefully chosen lists of general and cross references and illustrations, it is hoped, will add greatly to the value and usefulness of (this) volume, in presenting facts and in guiding the reader to more exhaustive sources of information."

In the opinion of the reviewer, the completeness of coverage of the above-mentioned aspects varies considerably from topic to topic. Absorption and emission spectroscopy, flame photometry, infrared spectrophotometry, and mass spectrometry, for example, are rather extensively discussed by numerous authors representing several different fields of application; other major areas, of perhaps less extensive current application but of certainly no less potential importance and interest, such as raman spectroscopy and X-ray diffraction, are much more briefly treated. However, in all cases, valuable definitive explanations of the topic under consideration are provided, and the selected references should be quite helpful to the reader unfamiliar with the field.

The book will be a much-used reference volume and as such should certainly be available to faculty members, graduate students, and other research personnel in the pharmaceutical sciences. Thus, it is recommended as a highly desirable addition to the reference shelf in pharmacy libraries.

Lee Worrell  
University of Texas

#### Dennis Ward

*Russian for Scientists*

New York: The Macmillan Company, 1961.  
204 pp. \$3.95.

The constantly increasing interest in Russian language scientific literature published in the Soviet Union has recently led to a

flow of texts and manuals aimed at helping the interested English-speaking scientist to become sufficiently fluent to be able to read this literature in the original. The most recent of such texts is the relatively small book by Dennis Ward, who is senior lecturer at Edinburgh University. Mr. Ward has realistically handled the task of writing a foreign language textbook for his potential audience, i.e., pre-professional students and professional scientists: he assumed that the readers of his book are likely to be busy individuals occupied by activities other than those associated with learning how to read in a foreign language. Therefore, to be really useful the book had to be concise and yet sufficiently detailed to introduce the serious reader to scientific Russian. The author has achieved this objective admirably. Within 142 pages of actual instructional material in the book, he has managed to incorporate all of the truly important grammatical peculiarities of the Russian language that are likely to trouble the novice. The book constantly stresses the importance of acquiring rapidly the ability to recognize paradigms. In this connection, the use of recognitional "markers," which are liberally scattered through the book, should prove extremely useful. A conscientious student who follows Mr. Ward's suggestions should find himself quickly rewarded for his efforts. Wisely, too, the reader is encouraged to learn how to resolve seemingly unfamiliar words into familiar components. In this way the need for a dictionary is cut down to a minimum.

One of the delightful features of the book is the treatment of participles. Scientific Russian makes free use of these constructions, which, alas, usually make it a tough going for an inadequately prepared student. Mr. Ward has solved the problem by a judicious use of English language examples which illustrate the function of participles as they would appear in Russian.

The book is formally divided into nineteen chapters, each chapter taking up a single well-defined grammatical milestone. Very quickly the student finds himself translating Russian sentences of increasing complexity into English, as each chapter has an exercise which is amply provided with explanatory footnotes and a vocabulary. The important verbal aspects are introduced in the tenth chapter after the student has had the opportunity to find his footing in the language by working with more simple phases of conjugation and declension. Four appendices are added for reference and review purposes



as well as general vocabulary and an adequate index.

A criticism of this book is the near absence of Russian language passages for a student to practice his newly acquired ability to read scientific Russian. A fifth appendix containing a series of selected excerpts from current Russian scientific papers and provided with appropriate notes would have greatly enhanced the usefulness of this already excellent text.

I. L. Kosin  
Washington State University

**Council on Drugs of the  
American Medical Association**  
*New and Nonofficial Drugs, 1961*  
Philadelphia, Pennsylvania: J. B. Lippincott  
Company, 1961. xxxii + 829 pp. \$4.00.

*New and Nonofficial Drugs* is compiled annually by the Council on Drugs of the American Medical Association. Descriptions are limited to individual drugs available in the United States that have not been included in the *USP*, the *NF*, or *NND* for a prior cumulative period of twenty years. Older drugs not currently described may be mentioned as a part of the introductory information on related drugs when this is necessary to provide proper orientation or perspective.

Drugs are described by pharmacological classifications, and each class is preceded by a discussion of the class.

The 1961 edition added fifty-four monographs. Six drugs were omitted because they were considered well known, and six drugs were omitted because they are no longer available in the United States.

The book serves as an excellent review of pharmacological and chemical classifications. Much effort has been made to make it a standard comparable to the *USP* and *NF*. In this respect it is a valuable tool for the medical and pharmaceutical professions. Much emphasis is placed on the clinical evaluation of drugs, which, in itself, is a valuable contribution.

Only a brief discussion of dosage forms is given, and this might lead to errors in prescribing unless additional information is available to the physician and pharmacist.

It would seem that such references as "more palatable" in describing specific drugs could be left to other media since this is a questionable characteristic.

If practical, the addition of references in the introductory sections would be very helpful.

Although the broad scope of the book makes it unsuitable as a textbook, it should be a must in the library of every physician and pharmacist.

Charles W. Hartman  
University of Mississippi

**A. L. Mndzhoian, Editor**  
*Syntheses of Heterocyclic Compounds, Volumes 3 and 4*  
Translated from Russian.  
New York: Consultants Bureau Enterprises, Inc., 1960. vi + 156 pp., 1 fig. \$6.00.

This textbook is similar in form to *Organic Syntheses* in that there is a monograph for the preparation of each heterocyclic compound. Each monograph follows the same outline, namely, title, chemical equations, details of the preparation, notes, other methods of preparation of the compound, and the literature cited. The details of preparation, which also include the yield and some physical properties of the compound, are very clear and explicit; consequently one should have little difficulty in preparing the desired compound. Under the heading of notes there is included an explanation of any unusual or difficult part of the preparation. In the compilation of other methods of preparation, literature published up to the end of 1956 has been reviewed. Each synthesis has been proposed by two chemists and has been checked by two different chemists.

The chemistry that is described in Volume 3 is concerned with the laboratory methods for preparation of thirty derivatives of furan. These consist of various types of reactions on substituent groups of the furan ring, but do not include the formation of the furan ring. The preparation of many of the reactants has been described in Volumes 1 and 2. The products of the reactions may serve as intermediates in the synthesis of more complex structures. Many of the compounds were first prepared at the Institute of Fine Organic Chemistry of the Academy of Sciences of the Armenian SSR.

Volume 4 is different in many respects from the previous volume. The preparation of other heterocyclic compounds such as substituted pyridines and substituted indoles is described. Both reactions on substituent groups and also many cyclizations are presented. Included are preparations submitted by groups of foreign authors.

The textbook will be of value because of the preparation of the specific compounds which are described. These compounds may be used as intermediates in the synthesis of other physiologically active substances. Fur-

thermore many of the preparations are of a general nature and consequently may be used in reactions with other heterocyclic rings.

J. G. Nairn  
University of Toronto

Cornelius A. Tobias and John H. Lawrence,  
Editors.

*Advances In Biological and Medical Physics,*  
Volume VII

New York: Academic Press, 1960. ix + 362  
pp., 98 figs., 10 tbs. \$10.00.

This series continues to be one of the few sources that bring together in a single volume some of the important advances in the rapidly developing areas of biophysics. The current volume offers seven excellent reviews, each well documented with literature references. A contribution from Sweden and another from Russia are included which give one insight into the caliber and interests of workers in other countries. These articles also provide references in this field that are not normally available to the general reader. Five of the seven reviews are devoted to the general area of nuclear radiation, indicating the rapid growth and importance of this area in basic research and medicine.

The subjects covered in the monographs are presented as follows:

1. "Genetic and Physiological Effects of the Decay of Incorporated Radioactive Phosphorus in Bacterial Viruses and Bacteria" by Gunther S. Stent, Virus Laboratory, University of California, Berkeley, California, and Clarence R. Fuerst, Ontario Cancer Institute, Toronto, Ontario, Canada

Using the method of Hershey, Kamen, Kennedy, and Gest which is based on the findings that the rate of inactivation of a population labeled with  $P^{32}$  reflects the isotope content of single microorganisms, the authors endeavor to show the effective adoption of this method for studies on the structure and function of genetic materials of bacterial viruses and bacteria. The characteristics of radiophosphorus inactivation of bacteriophages and bacteria, the effect on their physiological functions, biochemical changes, and genetic effects are discussed. A summary of the literature available on the applications of this method on organisms other than bacteriophages and bacteria is presented with suggestions of areas of probable usefulness of this method.

2. "Micro X-Ray Diffraction on Biological Materials" by Diego Carlström,

Department of Medical Physics, Karolinska Institutet, Stockholm, Sweden

This review covers the recent progress in the application of micro X-ray diffraction methods on crystalline or pseudocrystalline biological materials in the study of ultrastructural organization of biological systems. The types of equipment available, their characteristics, techniques employed in their use, their advantages over other existing methods, and their limitations are presented. Examples of the usefulness of this tool in the study of biological materials such as muscle fibers are offered, which indicates that this method should prove to be highly valuable as one means of solving many structural and micro-analytical problems dealing with the cell.

3. "Autoradiography with Tritium-Labeled Substances" by J. Herbert Taylor, Departments of Botany and Zoology, Columbia University, New York, New York

The value and advantages of the use of tritium (hydrogen-3) in autoradiographic methods in the studies of cellular components are discussed. The properties of tritium and the techniques employed in its use are presented. Findings with the use of tritium-labeled compounds on such studies as "Duplicating Mechanisms of Chromosomal DNA" and "Sequence of Events in Cell Proliferation and Migration" are reported. The future use of this method in studies on chromosome duplication and RNA and protein metabolism is suggested.

4. "The *Limulus* Eye as an Information Converter: Mechanisms for the Transfer of Information from the Light Image to the Optic Nerve" by Leo E. Lipetz, Institute for Research in Vision, Department of Ophthalmology, and Division of Biophysics, The Ohio State University, Columbus, Ohio

An unique and ingenious method of utilizing the lateral eye of the horseshoe crab, *Limulus polyphemus*, in the study of the receptor cells and the sequence of activities involved in the selection, conversion, and transference of information is described. The author proposes a hypothesis but points out that this proposal on the sequence of activity transfer mechanism is highly speculative and applies only to the lateral eye receptors of the *Limulus*. However, a brief attempt is made to interpret this hypothesis in relation to the receptors of the vertebrate eye. The reasons for choice, the anatomy, and biophysical characteristics of the *Limulus* eye

are offered. The need for further experiments to clarify various specific areas in the hypothesis is acknowledged.

5. "Physiological Effects of Nuclear Radiations on the Central Nervous System" by N. N. Livshits, Institute of Biological Physics, Academy of Science of USSR, Moscow, Russia

This is a thorough discussion of the recent findings on the effects of radiation upon the functional and metabolic processes of the central nervous system. The literature from about 1955 to 1960 is surveyed. Though the article is not intended to provide complete coverage of all new publications, an extensive bibliography is provided. It is clear from this report that the view once widely held that the central nervous system is relatively insensitive to the effects of radiation is no longer valid. The effects of various methods of irradiation with local as well as with total irradiation on the functions of the cerebral cortex, the brain stem, the individual vital centers, the spinal cord, and the afferent systems are presented. The influence on the central nervous system of radiations on vegetative functions, irradiation-linked compensatory processes, and irradiation of some endocrine glands are covered. The article is concluded with findings on the action of ionizing radiation on various biochemical processes in the brain.

6. "Some Isotopic Studies on the Distribution and Metabolism of Plasma Proteins" by David Gitlin and Charles A. Janeway, Department of Pediatrics, Harvard Medical School and the Children's Medical Center, Boston, Massachusetts

A fairly complete picture of the normal metabolism of major plasma proteins is presented. Most of the data are drawn from the personal findings of the authors through the use of exogenously labeled plasma proteins and through the use of some of the recent advances in qualitative and quantitative techniques in protein and immunochemistry. Problems associated with the methods used are discussed along with the evaluation of data analysis methods. The results of a few studies in selected pathological conditions are given to show some of the variations that occur in the plasma protein metabolism during such states.

7. "Radiation Carcinogenesis" by Lloyd W. Law, National Cancer Institute, Bethesda, Maryland

This review provides an integrated report on the knowledge available to date concern-

ing the nature and types of neoplasm induced by ionizing radiation on man and on experimental animals. Recent findings filling the gaps in the past knowledge on this subject are primarily discussed. Possible interpretations and areas where certain questions basic to the problem still need to be answered are suggested.

Any person reading the current literature in the fields of biological or medical sciences is aware that physical mechanisms and physical properties play an increasingly important role in the fundamental understanding of life processes. Much of the breakthrough in knowledge basic to biological and genetic mechanisms probably will come through establishment of biophysical concepts. The carefully chosen articles in this volume present some of the most important developments in the biological fields, in clear perspective without adding detail, and consolidate the key findings reported in recent literature on the subjects presented.

While the volume is not designed for the undergraduate, the average senior should not have difficulty in reading these reviews. The basic concepts and methods presented should prove invaluable to educators and researchers in the biological and medical fields. Many of the techniques presented are being adopted or can be adopted for various pharmaceutical researches. Those persons seeking to enter the research field will do well to read these reviews, for they provide a wealth of suggestions and information on problems that need to be solved. This volume and this series should be available in all pharmacy libraries and in any library related to the biological and medical sciences.

O. James Inashima  
New England College of Pharmacy

**M. Stacey and S. A. Barker**

*Polysaccharides of Microorganisms*

London: Oxford University Press, 1960. vi + 288 pp., 8 figs., 24 tpls. \$4.80.

Interest in polysaccharides has been great in recent years as evidenced by the large amount of published material available. This comprehensive review by Stacey and Barker is an excellent, well-documented account of published information concerning polysaccharides in microorganisms. It is an extremely useful compilation of information from lesser-known publications as well as from the more standard reference sources.

The review of the polysaccharides is an extremely well-written account of the subject, and it is not difficult to follow the logical, clear-cut approach of the authors.

The first five chapters of the book present a review of polysaccharide nomenclature, components, structural determination, and techniques used for their isolation and purification; chapter three contains a discussion of some of the known functions of polysaccharides in microorganisms. The last seven chapters of the book summarize our present knowledge of polysaccharides of rickettsiae and viruses, Gram negative bacteria, Gram positive bacteria, higher bacteria (Actinomycetales), molds, yeasts and yeast-like fungi, and protozoans. The polysaccharides of the various microorganisms are described by genera, with data summarized in tabular form at intervals.

The bibliography of all sections is extensive through 1958, with an appendix at the close of the book discussing current reports of polysaccharides in microorganisms through 1959. The format of the book is excellent, it is free from obvious errors, the photographs are sharp, and numerous structural formulae including numerous Haworth-type formulae are used extensively throughout the book. This will be an important reference source to any biochemist or biologist working with or interested in carbohydrates, and a worthy contribution to biological and chemical literature.

Rodney A. Rogers  
Drake University

**J. B. Pridham, Editor**

*Phenolics in Plants in Health and Disease*  
New York: Pergamon Press Inc., 1960. ix + 131 pp., 19 figs., 32 tbs., 20 plates. \$7.50.

Sixteen papers comprising a Plant Phenolic Group Symposium held at Bristol University in April, 1959, appear in this book. General aspects of the phenolic glycosides with the specific areas of lignification, pathology, and genetics are presented. "The Formation and Possible Function of Phenolic Glycosides," a paper submitted by the editor, amply indicates the probable role and significance of these substances in the physiology of the plant. A paper titled "The Distribution of Phenolic Compounds in Apple and Pear Trees" by A. H. Williams indicates how the presence of chemically interrelated phenolic compounds may serve to clarify chemotaxonomic relationships, at least in the sub-family Pomoideae of the family Rosaceae, by means of a chromatographic survey. "Germination Inhibition in Plant Material" by C. F. van Sumere contrasts the effects upon the germination of seeds, of spores, and root elongation by phenolic acids, coumarins, and indoleacetic acid. The problem of lignification

is adequately discussed in papers by T. Swain, F. A. Isherwood, and G. Buchloh. Isherwood's paper, "The Formation of Lignin in Plant Tissues," is particularly informative and carries a recent bibliography. The recognized inhibitory effects upon fungal spore germination by plant phenolics is shown in a paper by Flood and Kirkham, "The Effect of Some Phenolic Compounds on the Growth and Sporulation of *Venturia* species." Brown rot disease of apples caused by *Sclerotinia fructigena* and its inhibition by the polyphenolic compounds present in the fruit is the subject of a paper presented by R. Byrde, A. H. Fielding, and A. H. Williams. The authors indicate that the naturally occurring polyphenols in the apple fruit undergo oxidation and as such inactivate the pectolytic enzymes of the invading fungus. Such pectolytic enzymes are extracellular and may account for the pathogenicity of the fungus. The problem of genetic variation of anthocyanin pigments in *Primula* is ably presented in a paper titled "The Genetic Variation of Anthocyanin pigments in Plant Tissues" by J. B. Harborne. Additional papers by R. C. Peckett and W. J. Feenstra complete this aspect of the symposium. With but two exceptions each paper ends with from six to sixty references, and these in the main cite work of the three years prior to 1959. An edited and abridged discussion follows each paper and a general discussion appears at the end of each session.

The clarity of thought and the lucidity of presentation of the subject of phenolic glycosides make this a particularly valuable reference and should place it in every pharmacy and plant physiology library.

Frank J. Pokorny  
Columbia University

**Cynthia Westcott**

*Plant Disease Handbook*. Second Edition  
Princeton, New Jersey: D. Van Nostrand Company, Inc., 1960. xii + 825 pp., 112 figs. \$13.50.

This is a thorough review of the problems concerned with plant diseases. It is written in a language the scientist, as well as the lay farmer and gardener, will easily understand.

The book is well arranged, offering a good survey of chemical pesticides. They are classified as fungicides, bactericides, and nematocides. A chapter is devoted to the techniques of application of pesticides, another to the mixing of chemicals used as pesticides. A separate chapter deals with the all-purpose sprays and dusts.



The more scientifically inclined readers will welcome the chapter titled "Classification of Plant Pathogens"; others will find the classification helpful in understanding their specific problems in garden and field.

Approximately one half of the book (406 pp.) is taken up by the chapter "Plant Diseases and Their Pathogens." Readers will find excellent descriptions of the host plants and the agents causing the diseases. The diseases are grouped in alphabetical order into forty types according to their common names. All diseases caused by species of *Sphaceloma* are included under spot anthraenose in the new edition. The author regrets that plant pathologists, mycologists, and virologists have not yet come to a common agreement on names, and notes that this situation causes much trouble to a writer of a book on plant diseases.

The last chapter lists the common name of 1,070 host plants in alphabetical order, from *Abelia* to *Zizia*, "except where the Latin names may mean less confusion." This reviewer is of the opinion that there is always less confusion if Latin names are used.

A brief but concise introduction deals with such topics as "What is a Plant Disease?" or "Principles of Control." Readers will find the glossary and the bibliography at the end of the book very helpful. Equally helpful will be the list of the Agricultural Experiment Stations.

Anna H. Koffler  
Ohio Northern University

**Eric W. Martin and E. Fullerton Cook,**

Editors

*Remington's Practice of Pharmacy*. Twelfth Edition

Easton, Pennsylvania: Mack Publishing Company, 1961. xii + 1866 pp., 935 figs. \$22.50.

*Remington's Practice of Pharmacy* has been a major source of reference for pharmaceutical matters since 1885. The Twelfth Edition is organized similarly to the previous edition with the exception of classification of drugs as to pharmacological action rather than chemical structure.

Part I, titled "Pharmacy Orientation," replaces the introduction to the pharmacy section of the previous edition. Its seven chapters cover the previous material on history and ethics, literature, etc., and in addition outline the opportunities for the pharmacist in professional practice, industry, and government service.

Part II retains the title, "Physical Pharmacy," from the previous edition but has been expanded with the addition of chapters

on complexation and surfactants. The chapter on mathematics in pharmacy has been replaced by statistics.

Part III has been retitled "Manufacturing Pharmacy" from its previous name of preparations of pharmacy. This section has included new chapters in formulation, coating of tablets, capsules and pills, sustained action medication, and aerosols.

Part IV includes both inorganic and organic pharmaceuticals plus a new chapter on natural products.

Part V of Official and Non-official drugs has classified materials as to pharmacological action rather than previous chemical classification. This would seem to be more convenient classification for today's practicing pharmacist as a ready reference source for today's medication.

Part VI remains unchanged as "Biological Pharmacy" as do the Part VIII section on "Analytical Pharmacy" and Part IX now titled "Professional Practice."

A new section, Part VII "Radiopharmacy," has been included in the present edition, covering general principles, medical applications, and industrial and other nonmedical applications of radioactive materials.

Since *Remington's* has no counterpart, it is impossible to compare it with similar books in the field. It is well organized and edited, with recent illustrations and references in each section. The Twelfth Edition presents material that enables the practicing pharmacist to acquaint himself with some of the newer techniques and developments in the field without extensive literature research.

Used as intended, an encyclopedia of information for the pharmacist, it should be a necessary addition to each pharmacy and library. Although it is a series of textbooks within a reference book, the narrow scope of each section would preclude using it as the sole text in a course.

Harold M. Beal  
University of Connecticut

**I. C. Whitfield**

*An Introduction to Electronics for Physiological Workers*, Second Edition

New York: St. Martin's Press, Inc., 1959. xi + 263 pp., 246 figs., 2 tpls. \$3.75.

This book is intended, as the title indicates, to provide a foundation in electronic theory and technique for graduate students, biologists, and other workers in the medical specialties. With the aid of careful, albeit sometimes overly concise, discussion of copious numbers of circuit diagrams, the author leads the reader quite logically from a considera-



tion of the fundamentals of electricity and vacuum tubes to applications of these principles in simple amplifiers, rectifiers, and power supplies. Subsequent chapters treat nicely the requirements and design of more complex stabilized power supplies, biological amplifiers, power amplifiers, oscillators, the cathode-ray tube, trigger circuits, time-base generators, etc. Other chapters of interest to electro-physiologic workers include discourses on positive and negative feedback, noise, interference and screening, and filters and attenuators. Whitfield, recognizing the recent emergence and development of semiconductor materials and devices, has devoted the last two chapters of this Second Edition to basic treatment of the nature of transistors and transistor circuitry. The advantages and disadvantages of transistorized instrumentation are succinctly summarized.

Whitefield's book suffers somewhat from a dearth and sometimes complete absence of reference material and suggested supplementary reading (as in the chapters on transistors). It would seem to the reviewer that a complete introduction to electronics for physiological workers should include some fuller discussion of applications of basic circuitry in detecting and sensing elements

(such as transducers, strain elements, etc.), in recording and read-out devices and in complete instrumentation schemata. Such additional information is to be found in the more recent and thorough publication, *Biological and Medical Electronics* by R. W. Stacy, which book would more appropriately have utility as a textbook for instruction of graduate students majoring in physiology and pharmacology.

In spite of some obvious shortcomings, this book has definite value as an introduction to the terminology of a specialized area of electronic techniques. It should aid the biologist in reading and comprehending some of the details of design and operation to be found in manuals written by instrument manufacturers. Accordingly, this reviewer feels confident that this book and others like it will find their way to the bookshelves of discerning biologists and graduate students who come to realize that electronic instrumentation alone can detect and measure those certain types and magnitudes of forces associated with biological function to which human senses and crude mechanical systems fail to respond.

Fred T. Galysh  
Baxter Laboratories, Inc.

## New Books

**Peter Gray, Editor**

*The Encyclopedia of the Biological Sciences.* New York: Reinhold Publishing Corporation, 1961. xxi + 1119 pp., figs., tpls. \$20.00.

**N. H. Swellengrebel and M. M. Sterman**  
*Animal Parasites in Man.* Princeton, New Jersey: D. Van Nostrand Company, Inc., 1961. x + 652 pp., 332 figs., 5 plates. \$12.00.

**Leonard Engel**

*Medicine Makers of Kalamazoo.* New York: McGraw Hill Book Company, Inc., 1961. viii + 261 pp., illus. \$4.50.

**H. Bennett, Editor-in-Chief**

*The Chemical Formulary, Volume XI.* New York: Chemical Publishing Co., Inc., 1961. 416 pp. \$8.00.

**Z. M. Bacq and Peter Alexander**

*Fundamentals of Radiobiology.* Second Edition. New York: Pergamon Press, 1961. xii + 555 pp., figs., tpls. \$12.00.

**David Seligson, Editor-in-Chief**

*Standard Methods of Clinical Chemistry, Volume 3.* New York: Academic Press, 1961. x + 230 pp., 10 figs., 15 tpls. \$6.50.

**David D. Davies**

*Intermediary Metabolism in Plants.* New York: Cambridge University Press, 1961. xii + 108 pp., 35 figs., 9 tpls. \$4.00.

**Sue H. Rouse and M. George Webber**

*Calculations in Pharmacy.* Philadelphia: J. B. Lippincott Company, 1961. xi + 234 pp. \$5.00.

**L. L. Langley**

*Cell Function.* New York: Reinhold Publishing Corporation, 1961. xii + 377 pp., 118 figs., 17 tpls., 2 plates. \$7.50.

**J. B. Finean**

*Chemical Ultrastructure in Living Tissues.* Springfield, Illinois: Charles C Thomas, 1961. xii + 131 pp., 46 figs. \$6.00.

**A. R. Pinder**

*The Chemistry of the Terpenes.* New York: John Wiley & Sons, Inc., 1960. vii + 223 pp., 3 figs. \$8.25.

**Jean Brachet and Alfred E. Mirsky, Editors**  
*The Cell, Volume IV.* New York: Academic Press, 1960. xv + 511 pp., 37 figs., 6 tpls. \$18.00.

**Engelbert Broda**

*Radioactive Isotopes in Biochemistry.* Princeton, New Jersey: D. Van Nostrand Company, Inc., 1960. x + 376 pp., 30 figs., 12 tpls. \$11.50.

**William H. Fishman**

*Chemistry of Drug Metabolism.* Springfield, Illinois: Charles C Thomas, 1961. xvii + 235 pp., 99 figs., 6 tpls. \$10.50.

**H. R. Shepherd, Editor**

*Aerosols: Science and Technology.* New York: Interscience Publishers, Inc., 1961. xiv + 548 pp., 149 figs., 52 tpls. \$22.50.

**L. P. Ribeiro, E. Mitidieri, and O. R. Affonso**  
*Paper Electrophoresis.* Princeton, New Jersey: D. Van Nostrand Company, Inc., 1961. xii + 463 pp., 140 figs., 42 tpls. \$14.00.

**W. C. Cutting, Editor**

*Annual Review of Pharmacology, Volume I 1961.* Palo Alto, California: Annual Reviews, Inc., 1961. vii + 479 pp., 32 figs., 3 tpls. \$7.00.

**Frank Hinman**

*The Impact of the New Physics.* New York: Philosophical Library, Inc., 1961. 174 pp. \$4.50.

**Henry M. Burlage**

*Pharmaceutical Abstracts, Volume 11, No. 2.* Austin, Texas: The College of Pharmacy, University of Texas, 1961. 15 pp. \$1.00 (paper).

**Deane P. Furman**

*Manual of Medical Entomology.* Palo Alto, California: N-P Publications, 1961. v + 122 pp. \$5.50 (paper).

**Pharmacy Examination Review Book, Volume 1.** New York: Medical Examination Publishing Company Inc., 1960. 179 pp. \$6.00 (paper).

**Gregory Pincus and Erwin P. Vollmer, Editors**  
*Biological Activities of Steroids in Relation to Cancer.* New York: Academic Press, 1960. xvi + 530 pp., figs., tpls. \$15.00.

**F. C. Steward, Editor**  
*Plant Physiology, Volume 1 B.* New York: Academic Press, 1960. xvii + 348 pp., 130 figs., 31 tpls. \$12.00.

**Mary Belle Allen, Editor**  
*Comparative Biochemistry of Photoreactive Systems.* New York: Academic Press, 1960. xii + 437 pp., 149 figs., 36 tpls. \$12.00.

**Erwin Chargaff and J. N. Davidson, Editors**  
*The Nucleic Acids, Volume 3.* New York: Academic Press, 1960. xvi + 588 pp., 83 figs., 40 tpls. \$18.00.

**Paul D. Boyer, Henry Lardy and Karl Myrback, Editors**  
*The Enzymes, Volume 4.* New York: Academic Press, 1960. xx + 631 pp., 74 figs., 64 tpls. \$18.00.

**C. P. Stewart and A. Stolman, Editors**  
*Toxicology, Volume 1.* New York: Academic Press, 1960. xvii + 774 pp., 94 figs., 53 tpls. \$22.00.

**Martin S. Peterson**  
*Scientific Thinking and Scientific Writing.* New York: Reinhold Publishing Corporation, 1961. vii + 215 pp., 22 figs., 18 tpls. \$6.95.

**Milic Capek**  
*Philosophical Impact of Contemporary Physics.* Princeton, New Jersey: D. Van Nostrand Company, Inc., 1961. xvii + 414 pp. \$6.00.

**Ralph Lee Smith**  
*The Health Hucksters.* New York: Thomas Y. Crowell Company, 1960. 248 pp. \$3.95.

**Ashton L. Welsh**  
*The Fixed Eruption.* Springfield, Illinois: Charles C Thomas, 1961. xv + 248 pp. \$9.75.

**Leonard Cohan and Kenneth Craven**  
*Science Information Personnel.* New York: Science Information, 1961. vi + 74 pp. \$1.50 (paper).

**Andres Goth**  
*Medical Pharmacology.* St. Louis: The C. V. Mosby Company, 1961. 551 pp., 52 figs., 18 tpls. \$11.00.

**N. N. Klemparskaya, O. G. Alekseyeva, et al., Editors**  
*Problems of Infection, Immunity and Allergy in Acute Radiation Diseases.* Translated from Russian by Lydia Venters. New York: Pergamon Press Ltd., 1961. viii + 165 pp., 34 figs., 29 tpls. \$7.50.

**H. R. Mehta**  
*Pharmacy for Nurses.* Second Edition. Boulder, Colorado: Delta Publishing Company, 1961. viii + 359 pp., illus. \$5.95.

**H. DeJonge, Editor**  
*Quantitative Methods in Pharmacology.* New York: Interscience Publishers, Inc., 1961. xx + 391 pp., 118 figs., 83 tpls. \$13.25.

**F. F. Nord, Editor**  
*Advances in Enzymology, Volume 23.* New York: Interscience Publishers, Inc., 1961. v + 557 pp., 75 figs., 38 tpls. \$15.50.

#### MISCELLANEOUS

**Donald E. H. Frear, Editor**  
*Pesticide Handbook 1961.* Thirteenth Edition. State College, Pennsylvania: College Science Publishers, 1961. 286 pp. \$2.50 (paper).

*Food Additives What They Are/How They Are Used.* Washington, D.C.: Manufacturing Chemists' Association, Inc., 1961. 63 pp. \$0.20 (paper).

*Standardization of Methods for Conducting Microbic Sensitivity Tests.* Geneva: World Health Organization Technical Report Series No. 210, 1961. 24 pp. \$0.30 (paper).

*Expert Committee on Addiction-Producing Drugs.* Geneva: World Health Organization Technical Report Series No. 211, 1961. 16 pp. \$0.30 (paper).

*Recommended Requirements for Schools of Public Health.* Geneva: World Health Organization Technical Report Series No. 216, 1961. 24 pp. \$0.30 (paper).

*Manual for the Microscopical Diagnosis of Malaria in Man, 1960 Edition.* Washington, D.C.: Superintendent of Documents, U.S. Government Printing Office, 1961. 80 pp., illus. \$0.50 (paper) (Cat. No. FS 2.22/15:M 29).

*American Journal of Pharmaceutical Education*

*Grants-in-Aid and other Financial Assistance Programs Administered by the U.S. Department of Health, Education, and Welfare.* Washington, D.C.: Superintendent of Documents, U.S. Government Printing Office, 1961. 198 pp. \$1.50 (paper) (Cat. No. FS 1.6/6:961).

*Film Planning. A Guide for Voluntary Agencies.* New York: National Health Council, 1960. 24 pp. \$1.00 (paper).

*Health, Education, and Welfare Trends.* Washington, D.C.: Superintendent of Documents, U.S. Government Printing Office, 1961. 136 pp., illus. \$1.00 (paper) (Cat. No. FS 1.19:961).

*The Psychopharmacology Service Center of the National Institute of Mental Health.* Washington, D.C.: Superintendent of Documents, U.S. Government Printing Office, 1961. 10 pp. \$0.10 (paper) (Cat. No. FS 2.22:P95/7).

*Basic Nursing Education Programmes. A Guide to their Planning.* Geneva: World Health Organization, 1961. 81 pp. \$1.00 (paper).

*Pharmaceutical Advertising. A Survey of Existing Legislation.* Geneva: World Health Organization, 1961. Offprint from *International Digest of Health Legislation*, 1961, Vol. 12, No. 1. 53 pp. \$0.60 (paper).

*Prototype Hospital — Fallout Protected.* Washington, D.C.: Superintendent of Documents, U.S. Government Printing Office, 1961. 25 pp., illus. \$0.25 (paper) (Cat. No. FS 2.2:H 79/24).

*Education Directory, 1960-1961, Part 4, Education Associations.* Washington, D.C.: Superintendent of Documents, U.S. Government Printing Office, 1961. 117 pp. \$0.50 (paper) (Cat. No. FS 5.25:960-61/pt.4).

*Drug Supplies in the American Revolution.* Washington, D.C.: Superintendent of Documents, U.S. Government Printing Office, 1961. pp. 110-133, illus. \$0.25 (paper) (Cat. No. SI 3.3:225/paper 16).

*Russian Drug Index.* Washington, D.C.: Superintendent of Documents, U.S. Government Printing Office, 1961. 103 pp. \$0.60 (paper) (Cat. No. FS 2.202:R 92/2).

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